A project to
Develop and
Evaluate
Methods to
Promote
Ambulatory Care
Quality

Final Report, Volume 2

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DEMPAQ:
A project to Develop and Evaluate Methods to Promote Ambulatory Care Quality

Final Report, Vol. 2

This report describes the development and evaluation of a set of performance measures designed to assess the quality of care delivered to Medicare beneficiaries. Because this project was a test of a methodology, the results presented in this report should be regarded as preliminary rather than definitive.

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Table of Contents, Volume 1 and 2

Chapter 1
Conclusions and Recommendations

Chapter 2
Overview and Philosophy of the DEMPAQ Project

Chapter 3
Building a Collaborative Project

Chapter 4
Focus on Quality: Profiling Physicians' Practice Patterns

Chapter 5
Developing a Quality Improvement Database Using Health Insurance Data: A User's Guide with Application to Medicare's National Claims History File

Chapter 6*
The DEMPAQ Claims Review System: Results for Maryland

Chapter 7*
The DEMPAQ Claims Review System: Results for Alabama

Chapter 8*
The DEMPAQ Claims Review System: Results for Iowa

Chapter 9
Agreement Between Physicians' Office Records and Medicare Claims Data

Chapter 10
Evaluating the DCRS: Assessment by Physicians

Chapter 11
The Record Review Instrument

Chapter 12
Comparison of Participants and Nonparticipants in the DEMPAQ Record Review

Chapter 13
Evaluating DRRS: Inter-rater Reliability for Data Abstraction

Chapter 14
Evaluating the DRRS: Assessment by Physicians

Chapter 15
Evaluating DRRS and DCRS: Feedback of Results to Physician Groups

** Contained in Volume II*

Chapter 16*
The DEMPAQ Record Review System: Results for Maryland

Chapter 17*
The DEMPAQ Record Review System: Results for Alabama

Chapter 18*
The DEMPAQ Record Review System: Results for Iowa

Chapter 19
Variation in Office-Based Quality:
A Three-State Comparison of Care Provided to
Medicare Patients with Diabetes and Congestive Heart Failure

Chapter 20
Patterns of Variation, Record Review

Chapter 21
Costs of Implementing the DEMPAQ Record Review System (DRRS)

References

Table of Contents, Volume 3

Chapter 1
Summary and Recommendations

Chapter 2
Background and Overview of DEMPAQ Feedback and Education

Chapter 3
The CME Workshops

Chapter 4
CME Workbook

Chapter 5
Claims Reports

Chapter 6
Records Reports

References

** Contained in Volume II*

Chapter 6
The DEMPAQ Claims Review System: Results for Maryland

Physician practice profiling provides a claims-based instrument to gauge the quality and cost-effectiveness of a medical care from a very broad perspective. Most physician profiles focus exclusively on cost or utilization comparisons to other peers in a health plan or region. Many times, when utilization based profiles are distributed to physicians without any formal process for provider feedback and education the reactions from physicians can be negative and counterproductive to a quality improvement initiative. As a result, the DEMPAQ researchers sought to develop profiles that would immediately convey a focus on quality by their appearance alone. To meet this goal two types of profiles were developed: the office practice profile and the condition-specific profile. A complete set of condition-specific profiles for family practice physicians in Maryland follows a brief introduction of the contents of the profile.

The Office Practice Profile

The office practice profile was developed to reinvent the concept of the utilization based physician profile. The office practice profile was individualized for all participating physicians in each of the three study states and is not included here. An example of an individual office practice profile was submitted with the Feedback and Education Modification to the Original DEMPAQ Contract in December 1993.

The Condition-specific Profile

The design of the condition-specific profile is a major departure from the more utilization-based profiles used by private insurers. The first step of creating a condition-specific profile is the identification of patient population with particular medical condition of interest. We chose to focus on six major medical conditions in Medicare beneficiaries:

- Diabetes;
- Hypertension;
- Ischemic Heart Disease;
- Congestive Heart Failure;
- COPD; and
- Osteoarthritis.

Patients with each of these conditions were assigned a primary care source (PCS) to act as a proxy for a physician "gatekeeper" in the medical population. A complete description of the PCS assignment algorithm is provided in Chapter 5. Each PCS's patient population claims history was summarized with a focus on the use of medical procedures strongly related to quality of care provided. In the example profile that follows, Table 1 describes the use of recommended and limited use procedures for a medical condition. For medical procedures where comorbidities could be important, extensions of Table 1 represented as tables 1B through 1D, are provided for each possible comorbidity. Table 2 describes the admission rates for inpatient procedures commonly associated with condition under consideration. Table 3 concludes the profile with a summary of the medical visit referral patterns of the PCS's patients to other specialists. It should be noted that no representation of cost or overall utilization of services were included in any condition-specific profiles. Also, we chose to provide only specialty-specific profiles since the individual physician sample sizes were too small to be statistically reliable.

DEMPAQ CLAIMS REVIEW SYSTEM (DCRS)

Reports from DEMPAQ Claims Review

Family Practice (08)

INTRODUCTION

The first profile report included here is for office practice. The condition-specific profiles provide information on the ongoing monitoring of Medicare patients with six conditions:

- Diabetes
- Hypertension
- Ischemic Heart Disease
- Congestive Heart Failure
- Chronic Obstructive Pulmonary Disease
- Osteoarthritis

DATA INCLUDED

This report is based on all Medicare claims submitted from July 1, 1990–June 30, 1991, for patients aged 65 years or older.

Patients' data are **included** only if they had an office or emergency room visit during the year with a physician within the specialties of internal medicine, family practice, or general practice in your state.

Patients' data are **excluded** if:

- All care was received in inpatient settings;
- All visits were to specialist physicians;
- All visits were to physicians out of the state;
- Patient had nursing home care in two or more consecutive quarters.

OVERVIEW OF TABLES

- **Table 1** shows the percent of patients receiving each of a list of tests, visits and procedures 0, 1–2, 3–5, or over 5 times per year. The services are divided into two sets:

  Recommended Care represents the minimal level of services that should be provided to a patient.

  Limited Use Care depends of the patient's condition and the physician's discretion. This category includes services recommended for a subset of the population with the condition, as well as procedures that should be provided sparingly for all patients with the condition.

- **Table 2** shows hospital admissions for selected complications and days from discharge to follow-up visits.

- **Table 3** shows the distribution of services provided by the assigned primary care physicians, other general medicine physicians and selected other specialists. The assigned primary care physician is that primary care physician who provided more visits than any other primary care physician for each patient.

BACKGROUND INFORMATION

In the introduction to each condition, we provide information on:

- Procedures codes (CPT-4), diagnosis codes (ICD-9-CM), or other data sources used to identify tests, procedures, hospitalizations or providers
- Notes about the tests, procedures, visits, or hospitalizations reported
- Abbreviations used in the report
- References

OFFICE PRACTICE

This section is designed to include specific information for individual physicians, and has been omitted in this particular book for reasons of confidentiality.

DEMPAQ CLAIMS REVIEW SYSTEM

DIABETES PROFILE
STATE OF MARYLAND

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not A Maryland Provider]
[PHYSICIAN ID: 08 TOTAL]

DIABETES

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home visit)	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	According to the ABFP, visits for diabetic patients in control should be scheduled every 3-6 months (ABFP, p. 36).
Hemoglobin A1C test	CPT: 83036	Since the hemoglobin A1C test gives a good indication of the level of glucose control, it is recommended every 2 to 3 months (ABFP, p. 37) or every 6 months (ADA, p. 367).
Urinalysis	CPT: 81000,81002 81005,81099 84180,84185 84190	Annual urinalysis is recommended to check for proteinuria (ABFP, p. 38; ADA, p. 367). Proteinuria is an early manifestation of diabetic nephropathy (Branch, p. 785). Note: If urinalysis is done in the physician's office, it may not be billed separately.
Triglycerides	CPT: 84478 80061-80062 80065 83705 83720	Triglycerides should be tested annually (ADA, p. 367). Hypertriglyceridemia is common in diabetics (Harrison's, p. 1756).
Total cholesterol	CPT: 82465,82470 83700-83720 80012-80019 80065 80050 80053 80060-80062	Total cholesterol should be tested annually (ADA, p. 367) because diabetics are prone to have arteriosclerosis and have an increased risk of myocardial infarction (Harrison's, p. 1733).
HDL cholesterol	CPT: 83718 80061-80062 80065	HDL cholesterol should be tested annually (ADA, p. 367). In diabetics the ratio of HDL to LDL is altered and the risk of arteriosclerotic disease is increased (Harrison's, p. 1753).
Ophthalmology visit	CPT: 92002-92019 92225-92260	A complete eye and visual examination should be performed annually (ADA, p. 367). This examination is important to detect early signs of retinopathy (Harrison's, p. 1753) or cataract (Branch, p. 784).
	90000-90080 90600-90699 90750,90760	These codes are acceptable if reported by an ophthalmologist. Optometry visits in an optical shop are probably not billed to Medicare.

Limited Use Care	Data Source	Notes
Blood glucose	CPT: 82947-82952 80006-80019	While many physicians use blood glucose to monitor patients with diabetes, guidelines from ABFP (p. 37) and ADA recommend hemoglobin A1C for diabetes monitoring. In some cases, blood glucose tests may be a valuable adjunct to the hemoglobin A1C test. The blood glucose test is listed in the limited use category because it is sometimes appropriate for patients taking insulin. However, Medicare data do not indicate which drugs are used by a patient and may not indicate whether diabetes is type I or type II. Home blood glucose monitoring is not captured by these data.

DIABETES PROFILE – INTRODUCTION

This profile presents data for patients with diabetes, defined by a single claim for a physician visit with the diagnosis code of 250.xx.

Significance

Diabetes mellitus, the most common endocrine disease, is a chronic disease that requires continuing medical care and education to prevent acute complications and reduce the risk of long-term complications. The prevalence of non-insulin-dependent diabetes mellitus increases with age.

Abbreviations

ABFP = American Board of Family Practice
ADA = American Diabetes Association
DM = Diabetes mellitus
HDL = High-density lipoprotein
LDL = Low-density lipoprotein
Type I diabetes = insulin-dependent DM
Type II diabetes = non-insulin-dependent DM

References

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DIABETES

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with diabetes: 5674	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	7.9	44.2	34.1	13.8	7.2- 8.6
General medical visits (last 6 months)	9.7	41.9	34.0	14.3	8.9-10.5
Hemoglobin A1C tests	83.3	13.2	3.2	0.3	82.3-84.2
Urinalysis	56.2	28.8	10.7	4.3	54.8-57.4
Triglycerides	60.9	30.1	7.3	1.7	59.6-62.1
Total cholesterol	41.7	28.4	18.7	11.2	40.4-43.0
HDL cholesterol	70.1	24.6	4.5	0.7	68.9-71.3
Ophthalmology visits	56.1	29.2	11.3	3.3	54.8-57.4
LIMITED USE CARE					
Blood Glucose	13.0	31.5	34.5	21.0	12.1-13.9

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

DIABETES

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Ketoacidosis	ICD9: 250.1	Ketoacidosis is an acute metabolic complication of diabetes (Harrison's, p. 1749).
Hyperosmolar coma	ICD9: 250.2	Hyperosmolar nonketotic hyperglycemia can cause coma in the diabetic (Harrison's, p. 2051-2).
Other coma	ICD9: 250.3	Hyperglycemia with ketoacidosis is one of several conditions that can cause coma in diabetic patients (Harrison's, p. 2051-2).
Hypoglycemic coma	ICD9: 251.0	Hypoglycemia is a common complication of diabetes and may lead to coma (ABFP, p. 25; Harrison's, p. 1747).
Lower-extremity amputation	CPT: 27590-27598 27880-27889 28800-28825	Since diabetics are prone to arteriosclerotic vascular disease and foot ulcers (Harrison's, p. 1753), failure to inspect the feet or to teach patients proper foot care may contribute to the need for lower-extremity amputation.

DIABETES

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Ketoacidosis	1	1	0.02	0.00	17.00	0.00- 0.06
Hyperosmolar coma	2	2	0.04	0.00	10.00	0.00- 0.09
Other coma	0	0	0.00	N/A	N/A	N/A
Hypoglycemic coma	6	6	0.11	16.67	8.00	0.03- 0.20
Lower extremity amputation	40	58	0.70	36.36	28.79	0.50- 0.93

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

DIABETES

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Ophthalmologist or optometrist	Self-assigned specialty	Patients with diabetes need regular eye examinations with dilated pupils.
Podiatrist	Self-assigned specialty	Since foot problems are common in diabetics, these patients may require podiatric services.
Cardiologist	Self-assigned specialty	Since arteriosclerotic heart disease is a complication of diabetes, cardiologists are an important source of nonprimary care for these patients.
Other specialists	Self-assigned specialty	Patients with diabetes may require a specialist's care for conditions related or unrelated to diabetes.
Emergency room	CPT: 90500-90580	Patients with diabetes may seek emergency room treatment for sudden worsening of their condition. Use of the emergency room may indicate failure of control in the ambulatory care setting or failure of patient compliance with therapy.

DIABETES

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	30644	61.46	5662	99.79[5]
Other general medicine physicians	3305	6.63	1477	26.03
Ophthalmologists	2672	5.36	1475	26.00
Podiatrists	1004	2.01	477	8.41
Cardiologists	1062	2.13	437	7.70
Other specialists	8832	17.71	2673	47.11
Emergency rooms	2343	4.70	1373	24.20

[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

HYPERTENSION PROFILE
STATE OF MARYLAND

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not A Maryland Provider]
[PHYSICIAN ID: 08 TOTAL]

HYPERTENSION PROFILE – INTRODUCTION

This profile presents data for patients with hypertension, defined by a single claim for a physician visit with the diagnosis code of 401 00, 401.1, or 401 9 and without congestive heart failure.

Significance

Hypertension is a major cause of morbidity and mortality in the U.S. Adequate control of blood pressure can prevent many of the serious sequelae of hypertension.

Abbreviations

ABFP = American Board of Family Practice
ACE = Angiotensin-converting enzyme
AMI = Acute myocardial infarction
CHF = Congestive heart failure
CVA = Cerebrovascular accident
DM = Diabetes mellitus
IHD = Ischemic heart disease
TIA = Transient cerebral ischemic attack

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Haber E, Slater EE. High blood pressure. Ch. VII. In: Scientific American Medicine. Section 1. Cardiology. New York: Scientific American, 1988.

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Working Group on Management of Patients with Hypertension and High Blood Cholesterol. National education programs Working Group Report on management of patients with hypertension and high blood cholesterol. Ann Intern Med 1991; 114:224-237.

HYPERTENSION

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home visit)	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	The primary care visit for patients with hypertension is important for monitoring drug doses and side effects. For this profile, 2 visits per year are considered minimal care.

Limited Use Care	Data Source	Notes
Creatinine	CPT: 80012-80019 80060,80065 80073,82546 82565	A serum creatinine test should be part of the initial evaluation for a patient with hypertension (ABFP, p. 11). Increased serum creatinine levels indicate renal dysfunction, which may be a sequela of hypertension or its therapy (Harrison's, p. 1006, 1010-11, 1014).
Triglycerides	CPT: 80061-80062 80065,83705 83720,84478	Measurement of serum triglycerides is useful at initial evaluation (and later for some patients) because it aids assessment of other cardiovascular risk factors and gives guidance for therapy (ABFP, p. 11; Goroll, p. 100, 482).
Total cholesterol	CPT: 80012-80019 80050,80053 80060-80062 80065,82465, 82470 83700-83720	Discretionary monitoring of total cholesterol provides information on an additional risk factor and guidance for therapy (ABFP, p. 11).
Serum potassium	CPT: 80002-80019 80060,80062 80065,84132	Close monitoring of serum potassium is necessary for patients who are receiving diuretics or ACE inhibitors (Harrison's, p. 1010; DE, p. 488). A low serum potassium level may indicate primary aldosteronism (ABFP, p. 11).

HYPERTENSION

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension: 14321	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	11.2	53.2	28.0	7.7	10.7-11.7
General medical visits (last 6 months)	10.6	50.3	30.2	8.9	10.1-11.1
LIMITED USE CARE					
Creatinine	52.2	41.4	5.6	0.7	51.4-53.1
Triglycerides	62.5	31.2	5.3	1.0	61.7-63.3
Total cholesterol	45.7	32.0	15.8	6.5	44.9-46.6
Serum potassium	46.5	43.0	8.9	1.5	45.7-47.3

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

HYPERTENSION AND AGE 65-79

Table 1a. Process Measures: Distribution of Services – Age

Table 1a, on the facing page, shows the same information as Table 1 for patients age 65-79. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

HYPERTENSION AND AGE 65-79

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension and age 65-79: 12379	

Table 1A. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	11.6	53.1	27.8	7.6	11.0-12.1
General medical visits (last 6 months)	10.6	50.7	30.1	8.7	10.0-11.1
LIMITED USE CARE					
Creatinine	52.1	41.7	5.5	0.8	51.2-53.0
Triglycerides	61.7	31.8	5.5	1.0	60.9-62.6
Total cholesterol	45.1	32.1	16.0	6.8	44.2-45.9
Serum potassium	46.2	43.3	9.0	1.6	45.3-47.1

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1b. Process Measures: Distribution of Services -- Age

Table 1b, on the facing page, shows the same information as Table 1 for patients age 80+. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

HYPERTENSION AND AGE 80+

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension and age 80+: 1942	

Table 1B. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.8	53.7	29.2	8.3	7.6-10.1
General medical visits (last 6 months)	10.8	47.8	30.7	10.7	9.5-12.2
LIMITED USE CARE					
Creatinine	53.0	39.9	6.5	0.5	50.8-55.2
Triglycerides	67.5	27.7	4.1	0.7	65.4-69.5
Total cholesterol	50.1	30.9	14.1	4.9	47.9-52.3
Serum potassium	48.2	41.7	8.8	1.3	46.0-50.4

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

HYPERTENSION AND ISCHEMIC HEART DISEASE

Table 1c. Process Measures: Distribution of Services – Two Conditions

Table 1c, on the facing page, shows the same information as Table 1 for patients with hypertension and ischemic heart disease. If you compare Tables 1 and 1c, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1c than on Table 1 because these measures relate to both conditions.

HYPERTENSION AND IHD

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension and IHD: 1703	

Table 1C. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	6.3	39.0	38.5	16.2	5.2- 7.5
General medical visits (last 6 months)	6.2	37.2	39.8	16.8	5.1- 7.4
LIMITED USE CARE					
Creatinine	46.6	41.4	10.2	1.8	44.2-49.0
Triglycerides	56.0	33.6	8.5	1.9	53.6-58.3
Total cholesterol	40.5	27.4	20.0	12.2	38.1-42.8
Serum potassium	41.3	42.3	13.4	2.9	39.0-43.7
Coronary catheterization	99.8	0.2	0.1	0.0	99.4-99.9
ECG without exercise	28.2	53.3	16.0	2.5	26.1-30.3
Exercise stress test	82.1	17.1	0.5	0.3	80.2-83.8
Echocardiography	90.4	7.3	2.1	0.3	88.9-91.7
Radionuclide study without exercise	97.2	2.6	0.1	0.0	96.3-97.9
Radionuclide study with exercise	90.8	9.0	0.2	0.0	89.3-92.1

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals However, the confidence interval around the specialty group percent should overlap the statewide interval

HYPERTENSION

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Cerebrovascular accident	ICD9: 434,434.x, 436,437,437.0, 437.1,437.9	Patients with hypertension have an increased risk of stroke, which may be due to ischemia or intracerebral hemorrhage (Harrison's, p. 1978).
Transient cerebral ischemic attack	ICD9: 435-435.9	The cerebrovascular conditions that often accompany hypertension may lead to either TIA or CVA (Harrison's, p. 1977-8).
Acute myocardial infarction	ICD9: 410.xx-414.xx	Hypertension is a risk factor for both IHD and AMI (Merck, p. 337).
Hyperkalemia	ICD9: 276.7	Beta-blockers and ACE inhibitors (drugs often taken by patients with hypertension) increase the risk of hyperkalemia, particularly for patients with impaired renal function (Harrison's, p. 288; DE, p. 488).
Hypokalemia	ICD9: 276.8	The risk of hypokalemia is especially high for elderly patients being treated with both digitalis and a thiazide diuretic (ABFP, p. 24).
Congestive heart failure	ICD9: 402.01,402.11 402.91,428.xx	Hypertension predisposes the affected patient to CHF (Merck, p. 337).

HYPERTENSION

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Cerebrovascular Accident	119	134	0.83	9.78	21.69	0.68- 0.98
Trans. Cerebral Ischemic Attack	64	67	0.45	5.00	19.07	0.34- 0.56
Acute Myocardial Infarction	260	362	1.82	16.50	27.09	1.60- 2.04
Hyperkalemia	0	0	0.00	N/A	N/A	N/A
Hypokalemia	2	2	0.01	0.00	28.50	0.00- 0.03
Congestive Heart Failure	25	26	0.17	13.04	28.95	0.11- 0.24

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

HYPERTENSION

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physicians	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Cardiologist	Self-assigned specialty	Since heart disease is a common sequela of hypertension, cardiologists are an important source of nonprimary care for patients with hypertension.
Other specialists	Self-assigned specialty	Patterns of care-seeking by patients with hypertension may include use of specialists other than cardiologists.
Emergency Room	CPT: 90500-90580	Patients with hypertension may seek emergency room treatment for acute complications of hypertension.

HYPERTENSION

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	63183	61.16	14253	99.53[5]
Other general medicine physicians	6590	6.38	3290	22.97
Cardiologists	1696	1.64	715	4.99
Other specialists	28277	27.37	8597	60.03
Emergency rooms	3564	3.45	2333	16.29

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[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

ISCHEMIC HEART DISEASE PROFILE
STATE OF MARYLAND

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not A Maryland Provider]
[PHYSICIAN ID: 08 TOTAL]

ISCHEMIC HEART DISEASE PROFILE – INTRODUCTION

This profile presents data for patients with ischemic heart disease, defined by a single claim with the diagnosis code of 410.xx-414.xx.

Significance

IHD has an overall prevalence among the U.S. elderly of about 14% and in 1988 accounted for nearly 2.4 million hospitalizations for persons over age 65 (NCHS, 1991). While medical and surgical treatments help some patients, the best therapy is risk-factor reduction and treatment of aggravating conditions (Goroll, p. 128).

Abbreviations

ABFP = American Board of Family Practice
ACP = American College of Physicians
AMI = Acute myocardial infarction
CABG = Coronary artery bypass graft
CAD = Coronary artery disease
CHF = Congestive heart failure
ECG = Electrocardiogram
HDL = High density lipoprotein cholesterol
IHD = Ischemic heart disease
NCHS = National Center for Health Statistics
PTCA = Percutaneous transluminal coronary angioplasty

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ISCHEMIC HEART DISEASE

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home) visit or visit with specialist, once in each half year.	CPT: 90000-90170 (90100-90170) 90600-90699 90750,90760	The regular follow-up of patients with ischemic heart disease is important to monitor for management of angina, infarction, cardiac failure, or arrhythmias. The ABFP recommends follow-up at 3- to 6-month intervals for patients with ischemic heart disease (ABFP, p. 37).

Limited Use Care	Data Source	Notes
Total cholesterol	CPT: 80012-80019 80050,80053 80060-80062 80065,82465 82470 83700-83720	Elevated serum cholesterol is a known risk factor for AMI (Goroll et al., p. 42). The ACP (Hayward et al., p. 769) and the ABFP (ABFP, p. 37) recommend frequent or appropriately timed cholesterol tests for patients with IHD.
HDL cholesterol	CPT: 80061-80062 80065,83718	Since risk of CAD is inversely correlated with HDL cholesterol level, periodic monitoring of HDL cholesterol is warranted for assessment of risk (Goroll, p. 97).
Coronary catheterization	CPT: 93547-93553	The extent of coronary disease, as revealed by coronary angiography is an important predictor of the risk of death from CAD. Coronary angiography is indicated for selected patients, including those with incapacitating angina who are already on a maximum medical program. (Scientific American, p. 8; ABFP, p. 12).
ECG without exercise	CPT: 93000-93014	The resting ECG is a standard tool in diagnosing ischemic heart disease (ABFP, p. 10). ST depression indicates ischemia.
Exercise stress test	CPT: 93015,93017 93018	In the absence of an ST-segment depression on a resting ECG, an exercise stress test can help in diagnosing ischemic heart disease in patients with chest pain (ABFP, p. 10) or silent ischemia.
Echocardiography	CPT: 93307-93350	A resting echocardiogram can identify myocardial involvement, provide a good measure of ventricular size and function, and help rule out other types of cardiac disease such as cardiomyopathy or valvular disease (ABFP, p. 12).
Radionuclide study without exercise	CPT: 78414-78445 78460,78464 78466-78474 78481,78484	A resting radionuclide study can be useful in distinguishing the etiology of cardiac disease (e.g., a poorly functioning left ventricle versus coronary disease). Multigated studies provide data about the size, contraction pattern, and ejection fraction of a resting heart (Scientific American, p. 6). Nuclear medicine studies tend to be more expensive than other studies, however, and physicians may wish to limit their use (ABFP, p. 12).
Radionuclide study with exercise	CPT: 78461,78465 78475-78479 78485,78486 78487,78489	A radionuclide study with exercise can demonstrate areas of ischemia by showing defects that reperfuse after rest. Information about wall motion abnormalities and ejection fraction contribute to the diagnosis of ischemia (Harrison's, p. 966). The caveat about the use of radionuclide studies also applies here.

ISCHEMIC HEART DISEASE

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with ischemic heart disease: 6205	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	9.5	43.0	33.2	14.2	8.8-10.3
General medical visits (last 6 months)	12.0	39.7	32.7	15.5	11.2-12.8
LIMITED USE CARE					
Total cholesterol	40.5	30.2	18.3	11.0	39.2-41.7
HDL cholesterol	67.6	27.3	4.5	0.6	66.4-68.8
Coronary catheterization	99.7	0.3	0.0	0.0	99.5-99.8
ECG without exercise	30.4	50.9	15.6	3.1	29.2-31.5
Exercise stress test	83.4	15.6	0.6	0.3	82.5-84.3
Echocardiography	90.2	7.7	1.9	0.2	89.4-90.9
Radionuclide study without exercise	97.5	2.4	0.1	0.0	97.1-97.8
Radionuclide study with exercise	91.1	8.4	0.4	0.0	90.4-91.8

[*] These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

ISCHEMIC HEART DISEASE AND AGE 65-79

Table 1a. Process Measures: Distribution of Services -- Age

Table 1a, on the facing page, shows the same information as Table 1 for patients age 65-79. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

IHD AND AGE 65-79

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with IHD and age 65-79: 5120	

Table 1A. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	9.9	42.9	33.1	14.1	9.1-10.8
General medical visits (last 6 months)	11.7	40.3	32.5	15.4	10.9-12.6
LIMITED USE CARE					
Total cholesterol	39.0	30.3	18.9	11.8	37.7-40.4
HDL cholesterol	65.6	28.8	5.0	0.6	64.3-66.9
Coronary catheterization	99.6	0.3	0.0	0.0	99.4-99.8
ECG without exercise	29.4	51.7	15.7	3.3	28.1-30.6
Exercise stress test	80.8	18.1	0.8	0.4	79.7-81.8
Echocardiography	89.8	7.9	2.1	0.2	89.0-90.6
Radionuclide study without exercise	97.1	2.8	0.2	0.0	96.6-97.5
Radionuclide study with exercise	89.7	9.8	0.5	0.0	88.8-90.5

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

ISCHEMIC HEART DISEASE AND AGE 80+

Table 1b. Process Measures: Distribution of Services – Age

Table 1b, on the facing page, shows the same information as Table 1 for patients age 80+. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

IHD AND AGE 80+

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with IHD and age 80+: 1085	

Table 1B. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	7.7	43.8	33.5	15.0	6.2- 9.4
General medical visits (last 6 months)	13.3	37.1	33.8	15.9	11.3-15.3
LIMITED USE CARE					
Total cholesterol	47.1	30.0	15.4	7.5	44.1-50.0
HDL cholesterol	77.1	20.2	2.4	0.3	74.5-79.5
Coronary catheterization	100.0	0.0	0.0	0.0	N/A
ECG without exercise	35.0	47.1	15.4	2.5	32.2-37.9
Exercise stress test	96.0	3.9	0.1	0.0	94.7-97.0
Echocardiography	91.7	7.0	1.1	0.2	89.9-93.2
Radionuclide study without exercise	99.4	0.6	0.0	0.0	98.8-99.7
Radionuclide study with exercise	97.9	2.0	0.1	0.0	96.8-98.6

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

HYPERTENSION AND ISCHEMIC HEART DISEASE

Table 1c. Process Measures: Distribution of Services – Two Conditions

Table 1c, on the facing page, shows the same information as Table 1 for patients with hypertension and ischemic heart disease. If you compare Tables 1 and 1c, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1c than on Table 1 because these measures relate to both conditions.

HYPERTENSION AND IHD

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension and IHD: 1703	

Table 1C. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	6.3	39.0	38.5	16.2	5.2- 7.5
General medical visits (last 6 months)	6.2	37.2	39.8	16.8	5.1- 7.4
LIMITED USE CARE					
Creatinine	46.6	41.4	10.2	1.8	44.2-49.0
Triglycerides	56.0	33.6	8.5	1.9	53.6-58.3
Total cholesterol	40.5	27.4	20.0	12.2	38.1-42.8
Serum potassium	41.3	42.3	13.4	2.9	39.0-43.7
Coronary catheterization	99.8	0.2	0.1	0.0	99.4-99.9
ECG without exercise	28.2	53.3	16.0	2.5	26.1-30.3
Exercise stress test	82.1	17.1	0.5	0.3	80.2-83.8
Echocardiography	90.4	7.3	2.1	0.3	88.9-91.7
Radionuclide study without exercise	97.2	2.6	0.1	0.0	96.3-97.9
Radionuclide study with exercise	90.8	9.0	0.2	0.0	89.3-92.1

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

CONGESTIVE HEART FAILURE AND ISCHEMIC HEART DISEASE

Table 1d. Process Measures: Distribution of Services -- Two Conditions

Table 1d, on the facing page, shows the same information as Table 1 for patients with congestive heart failure and ischemic heart disease. If you compare Tables 1 and 1d, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1d than on Table 1 because these measures relate to both conditions.

CHF AND IHD

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and IHD: 1014	

Table 1D. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0[*]
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	6.1	30.6	36.9	26.4	4.7- 7.7
General medical visits (last 6 months)	10.2	25.5	35.3	29.0	8.4-12.1
Serum potassium	29.9	38.5	21.3	10.4	27.1-32.7
LIMITED USE CARE					
Echocardiography	84.0	12.4	3.1	0.5	81.6-86.1
ECG	26.7	43.6	20.9	8.8	24.0-29.5
Chest x-ray	36.0	46.3	14.5	3.3	33.0-38.9
Contrast angiography	99.4	0.6	0.0	0.0	98.7-99.7
Excercise stress test	89.2	9.1	1.1	0.7	87.1-90.9
Total cholesterol	38.0	27.9	19.3	14.8	35.0-40.9
HDL cholesterol	70.3	24.8	3.9	1.0	67.4-73.0
Coronary catheterization	99.4	0.6	0.0	0.0	98.7-99.7
Exercise stress test	89.2	9.1	1.1	0.7	87.1-90.9
Radionuclide study without exercise	96.6	3.2	0.2	0.0	95.3-97.6
Radionuclide study with exercise	92.3	7.2	0.5	0.0	90.5-93.8

[*] These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

ISCHEMIC HEART DISEASE

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Acute myocardial infarction	ICD9: 410.00-410.91	A myocardial infarction can result from ischemic heart disease.
Ventricular arrhythmia	ICD9: 427.1,427.41 427.42	Ventricular tachycardia and ventricular fibrillation may occur in patients with a myocardial infarction (Harrison's, p. 958).
Congestive heart failure	ICD9: 402.01,402.11 402.91 428.0-428.9 429.9	Left heart failure can result from a myocardial infarction (Harrison's, p. 960).

ISCHEMIC HEART DISEASE

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Acute Myocardial Infarction	251	266	4.05	11.73	25.82	3.56- 4.54
Ventricular arrhythmia	12	17	0.19	23.08	35.40	0.09- 0.31
Congestive Heart Failure	300	384	4.83	16.72	19.46	4.31- 5.38

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

ISCHEMIC HEART DISEASE

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Cardiologists	Self-assigned specialty	Cardiology specialists represent an important source of nonprimary care for IHD patients.
Cardiac/thoracic surgeons	Self-assigned specialty	Patients requiring surgery will generally visit a cardiac or thoracic surgeon.
Other specialists	Self-assigned specialty	Patients with IHD may require a specialist's care for conditions related or unrelated to IHD.
Emergency Room	CPT: 90500-90580	Patients with IHD may seek emergency room treatment for sudden worsening of their condition. In addition, the primary care physician may refer them to the emergency room if a myocardial infarction is suspected.

ISCHEMIC HEART DISEASE

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	33058	54.54	6187	99.71[5]
Other general medicine physicians	4083	6.74	1826	29.43
Cardiologists	3793	6.26	1525	24.58
Cardiac/thoracic surgeons	463	0.76	289	4.66
Other specialists	12089	19.94	3405	54.88
Emergency rooms	3887	6.41	2118	34.13

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[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

CONGESTIVE HEART FAILURE PROFILE
STATE OF MARYLAND

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not A Maryland Provider]
[PHYSICIAN ID: 08 TOTAL]

CONGESTIVE HEART FAILURE PROFILE -- INTRODUCTION

This profile presents data for patients with congestive heart failure, defined by a single claim for a visit with the diagnosis code of 402.01, 402.11, 402.91, or 428.xx.

Significance

In the U.S., heart failure affects more than 2 million people and results in 900,000 hospitalizations yearly. Prevalence increases with age and is nearly 10% among persons >80 years of age. Since CHF is an end-stage disease, treatment has limited potential. Prevention, by modifying risk factors and correcting functional disturbances, is a more promising means of reducing morbidity and mortality (Kannel and Belanger, 1991).

Abbreviations

ABFP = American Board of Family Practice
AMI = Acute myocardial infarction
CHF = Congestive heart failure
COPD = Chronic obstructive pulmonary disease
ECG = Electrocardiogram
IHD = Ischemic heart disease

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CONGESTIVE HEART FAILURE

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home) visit or visit with cardiologist	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	The primary care visit for patients with CHF is important in monitoring drug doses, drug side effects, or symptoms of heart failure. Most primary care practitioners schedule office visits 2-4 months apart (Fleg et al., 1989). For this profile, 2 visits per year are considered minimal care.
Potassium, serum	CPT: 80002-80019 80060,80062 80065,84132	Close monitoring of serum potassium is necessary for patients who are receiving diuretics, as most patients with CHF do (Cohn, 1989).

Limited Use Care	Data Source	Notes
Echocardiography	CPT: 93307-93350	Echocardiography (sonography) can provide accurate measurements of cardiac chambers, wall thickness, and valvular structures (ABFP, CHF Guide, p. 12). This technique should be limited to patients suspected of having cardiac valve disease,.
ECG	CPT: 93000-93014	While ECGs do not confirm the presence or absence of heart failure, they provide clues to the etiology of the failure (ABFP, CHF Guide, p. 11).
Chest x-ray	CPT: 71010-71035	The chest radiograph provides an indication of underlying cardiac abnormality and information regarding the status of the failure itself (ABFP, CHF Guide, p. 11). While useful, the chest x-ray is not a very sensitive screening test for heart failure (Branch, p. 129). The history and signs detected at physical exam are more important for monitoring and managing the patient with CHF.
Contrast angiography	CPT: 93546-93553	Injection of radiographic contrast agent into coronary arteries or left ventricle permits assessment of coronary artery stenosis or ventricular ejection fraction (Harrison's, p. 872-4). This technique is useful only for patients known or suspected to have IHD in addition to CHF.
Exercise stress test (ECG)	CPT: 93015-93018	Stress testing provides information about ventricular function and myocardial ischemia (Harrison's, p. 966). Exercise testing may help identify the cause of heart failure (ABFP, CHF Guide, p. 12). Exercise tolerance is an important tool to evaluate the efficacy of treatment (Cohn, 1988) and to identify a safe range for heart rate during exercise (Merck, p. 280-1). However, exercise testing is contraindicated for patients with unstable angina, probable AMI, severe aortic stenosis or hypertension, or uncontrolled arrhythmias (Branch, p. 57) or for those who are asymptomatic (Branch, p. 63).

CONGESTIVE HEART FAILURE

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice

Total number of primary patients with congestive heart failure: 2491

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.4	34.5	36.3	20.9	7.3- 9.5
General medical visits (last 6 months)	10.7	30.1	35.5	23.7	9.5-11.9
Serum potassium	32.7	39.8	19.9	7.6	30.9-34.6
LIMITED USE CARE					
Echocardiography	87.2	9.9	2.5	0.4	85.9-88.5
ECG	37.1	44.0	14.5	4.3	35.2-39.0
Chest x-ray	42.3	44.8	10.9	2.0	40.4-44.2
Contrast angiography	99.8	0.2	0.0	0.0	99.5-99.9
Exercise stress test	94.1	5.5	0.3	0.1	93.1-95.0

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

CONGESTIVE HEART FAILURE AND AGE 65-79

TAble 1a. Process Measures: Distribution of Services -- Age

Table 1a, on the facing page, shows the same information as Table 1 for patients age 65-79. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

CHF AND AGE 65-79

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice

Total number of primary patients with CHF and age 65-79: 1757

Table 1A. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.4	32.2	36.5	22.9	7.2- 9.8
General medical visits (last 6 months)	10.4	27.9	34.9	26.8	9.0-11.9
Serum potassium	32.3	38.8	20.4	8.5	30.1-34.5
LIMITED USE CARE					
Echocardiography	85.8	10.9	2.8	0.5	84.0-87.3
ECG	34.7	44.6	15.9	4.8	32.4-36.9
Chest x-ray	40.7	44.8	12.1	2.4	38.4-43.0
Contrast angiography	99.7	0.3	0.0	0.0	99.3-99.8
Exercise stress test	92.3	7.2	0.4	0.1	90.9-93.4

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1b. Process Measures: Distribution of Services

Table 1b, on the facing page, shows the same information as Table 1 for patients age 80+. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

CHF AND AGE 80+

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and age 80+: 734	

able 1B. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.2	40.1	35.7	16.1	6.3-10.2
General medical visits (last 6 months)	11.3	35.6	36.8	16.3	9.1-13.7
Serum potassium	33.7	42.2	18.7	5.4	30.2-37.1
LIMITED USE CARE					
Echocardiography	90.7	7.4	1.8	0.1	88.4-92.6
ECG	43.1	42.6	11.3	3.0	39.4-46.6
Chest x-ray	46.2	44.8	8.0	1.0	42.5-49.7
Contrast angiography	100.0	0.0	0.0	0.0	N/A
Exercise stress test	98.6	1.2	0.1	0.0	97.5-99.2

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1c. Process Measures: Distribution of Services – Two Conditions

Table 1c, on the facing page, shows the same information as Table 1 for patients with hypertension and ischemic heart disease. If you compare Tables 1 and 1c, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1c than on Table 1 because these measures relate to both conditions.

CHF AND COPD

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and COPD: 445	

Table 1C. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	4.5	23.1	41.3	31.0	2.8- 6.6
General medical visits (last 6 months)	9.2	20.2	35.5	35.1	6.7-12.0
Serum potassium	32.1	38.7	20.9	8.3	27.8-36.5
LIMITED USE CARE					
Echocardiography	88.5	7.0	3.6	0.9	85.2-91.1
ECG	30.6	45.6	17.5	6.3	26.3-34.8
Chest x-ray	26.3	49.9	20.0	3.8	22.3-30.4
Contrast angiography	99.3	0.7	0.0	0.0	98.0-99.8
Excercise stress test	95.5	4.3	0.2	0.0	93.1-97.1
Blood gases	88.1	8.5	1.8	1.6	84.7-90.8
Home oxygen therapy	81.6	3.6	4.3	10.6	77.7-84.9
Spirometry	78.7	19.6	1.8	0.0	74.5-82.2

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals However, the confidence interval around the specialty group percent should overlap the statewide interval

CONGESTIVE HEART FAILURE AND ISCHEMIC HEART DISEASE

Table 1d. Process Measures: Distribution of Services

Table 1d, on the facing page, shows the same information as Table 1 for patients with hypertension and ischemic heart disease. If you compare Tables 1 and 1d, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1d than on Table 1 because these measures relate to both conditions.

CHF AND IHD

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and IHD: 1014	

Table 1D. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	6.1	30.6	36.9	26.4	4.7- 7.7
General medical visits (last 6 months)	10.2	25.5	35.3	29.0	8.4-12.1
Serum potassium	29.9	38.5	21.3	10.4	27.1-32.7
LIMITED USE CARE					
Echocardiography	84.0	12.4	3.1	0.5	81.6-86.1
ECG	26.7	43.6	20.9	8.8	24.0-29.5
Chest x-ray	36.0	46.3	14.5	3.3	33.0-38.9
Contrast angiography	99.4	0.6	0.0	0.0	98.7-99.7
Excercise stress test	89.2	9.1	1.1	0.7	87.1-90.9
Total cholesterol	38.0	27.9	19.3	14.8	35.0-40.9
HDL cholesterol	70.3	24.8	3.9	1.0	67.4-73.0
Coronary catheterization	99.4	0.6	0.0	0.0	98.7-99.7
Exercise stress test	89.2	9.1	1.1	0.7	87.1-90.9
Radionuclide study without exercise	96.6	3.2	0.2	0.0	95.3-97.6
Radionuclide study with exercise	92.3	7.2	0.5	0.0	90.5-93.8

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

CONGESTIVE HEART FAILURE

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Congestive heart failure	ICD9: 402.01,402.11 402.91 428.0-428.9 429.9	Hospitalization for CHF is often due to poor patient adherence to dietary and medical regimes, inadequate physician responses to early signs of CHF decompensation, or both.
Arrhythmias	ICD9: 427.0-427.9	Arrhythmia is both a cause and a complication of heart failure (Harrison's, p. 891; Cohn, 1988).
Pulmonary embolism	ICD9: 415.1	Low cardiac output, sometimes present in CHF, increases the risk of pulmonary emboli (Harrison's, p. 890).
Volume depletion	ICD9: 276.5	Overtreatment of the CHF patient with diuretics may lead to hypovolemia (Harrison's, p. 895), and hospitalization may be necessary to restore fluid and electrolyte balance.

CONGESTIVE HEART FAILURE

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Congestive Heart Failure	482	607	19.35	13.96	18.60	17.81-20.9
Arrhythmias	123	133	4.94	15.79	19.32	4.12- 5.81
Pulmonary embolism	4	5	0.16	50.00	2.50	0.04- 0.35
Volume depletion	44	46	1.77	23.08	23.33	1.28- 2.31

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

CONGESTIVE HEART FAILURE

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Cardiologist	Self-assigned specialty	Cardiology specialists represent an important source of nonprimary care for patients with CHF.
Other specialists	Self-assigned specialty	Patients with CHF may require a specialist's care for conditions related or unrelated to CHF.
Emergency Room	CPT: 90500-90580	Patients with CHF may seek emergency room treatment for sudden worsening of their condition. Use of the emergency room may indicate failure of control in the ambulatory care setting or failure of patient compliance with therapy.

CONGESTIVE HEART FAILURE

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	15726	57.46	2475	99.36[5]
Other general medicine physicians	2036	7.44	829	33.28
Cardiologists	1208	4.41	410	16.46
Other specialists	5908	21.59	1573	63.15
Emergency rooms	2491	9.10	1215	48.78

[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

COPD PROFILE
STATE OF MARYLAND

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not A Maryland Provider]
[PHYSICIAN ID: 08 TOTAL]

CHRONIC OBSTRUCTIVE PULMONARY DISEASE PROFILE – INTRODUCTION

This profile presents data for patients with chronic obstructive pulmonary disease, defined by a single claim for a visit, with the diagnosis code of 491, 491.0-491.9, 492, 492.0, 492.8, or 496.

Significance

COPD (emphysema or bronchitis) affects nearly 10% of the U.S. population over 65 years of age and accounts for about 147,000 hospitalizations annually for that age group. Since COPD is incurable, the goal of management is preservation of function and avoidance of complications (NCHS; Goroll, p. 214).

Abbreviations

ABFP = American Board of Family Practice
CHF = Congestive heart failure
COPD = Chronic obstructive pulmonary disease
NCHS = National Center for Health Statistics

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CHRONIC OBSTRUCTIVE PULMONARY DISEASE PROFILE

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home) visit	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	The primary care visit is important in monitoring the course of a progressive disease. A minimum of 3 visits per year is recommended by the ABFP (COPD Guide, p. 35). For this profile, 2 visits per year are considered minimal care.

Limited Use Care	Data Source	Notes
Spirometry	CPT: 94010-94200	Spirometry provides a measure of a patient's vital capacity and lung functioning. The ABFP COPD Guide (p. 35) recommends that spirometry be performed at every routine visit. Spirometry has been placed in the limited use column to reflect that patients with mild disease may not require frequent or even yearly spirometry.
Chest x-ray	CPT: 71010-71035	A chest x-ray is important in patients with exacerbations of disease to check for pneumonia. Chest x-rays can also assist in making a diagnosis of CHF for patients with COPD. Chest x-rays also can provide information about hyperinflation and changes in vascular markings (Scientific American, Chronic Obstructive Disease of the Lung, p. 11). The ABFP COPD Guide (p. 35) suggests that yearly chest x-rays may be warranted by the patient's clinical condition.
Home oxygen therapy	CPT: E0410,E0416, E0425,E0430, E1400,Q0043, Q0046	Patients with severe COPD (pO_2 <60mm Hg) may benefit from home O_2 therapy (Goroll, p. 218), but the need should be documented. Physicians with a higher proportion of patients on home oxygen therapy than the statewide average may have a patient population that is more severely ill.
Blood gases	CPT: 82790-82817 94700-94715	Blood gases are important to measure oxygenation of the blood and CO_2 retention, factors which may affect the treatment plan. Yearly measurement of blood gases is recommended by the ABFP (COPD Guide, p. 35). Blood gases have been placed in the limited use column to reflect the fact that patients with mild disease may not need a yearly blood gas determination. (Note: Blood gas measurements done in hospital are excluded.)

COPD

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with copd: 3030	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	10.1	37.2	36.2	16.5	9.0-11.2
General medical visits (last 6 months)	10.6	35.5	34.0	19.9	9.6-11.7
LIMITED USE CARE					
Spirometry	75.2	22.9	1.6	0.3	73.6-76.7
Chest x-ray	42.0	47.2	9.5	1.3	40.2-43.7
Home oxygen therapy	91.6	1.5	1.6	5.4	90.5-92.5
Blood gases	93.6	4.9	0.8	0.7	92.7-94.4

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

CONGESTIVE HEART FAILURE AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Table 1c. Process Measures: Distribution of Services -- Two Conditions

Table 1c, on the facing page, shows the same information as Table 1 for patients with congestive heart failure and chronic obstructive pulmonary disease. If you compare Tables 1 and 1c, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1c than on Table 1 because these measures relate to both conditions.

CHF AND COPD

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and COPD: 445	

Table 1C. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	4.5	23.1	41.3	31.0	2.8- 6.6
General medical visits (last 6 months)	9.2	20.2	35.5	35.1	6.7-12.0
Serum potassium	32.1	38.7	20.9	8.3	27.8-36.5
LIMITED USE CARE					
Echocardiography	88.5	7.0	3.6	0.9	85.2-91.1
ECG	30.6	45.6	17.5	6.3	26.3-34.8
Chest x-ray	26.3	49.9	20.0	3.8	22.3-30.4
Contrast angiography	99.3	0.7	0.0	0.0	98.0-99.8
Excercise stress test	95.5	4.3	0.2	0.0	93.1-97.1
Blood gases	88.1	8.5	1.8	1.6	84.7-90.8
Home oxygen therapy	81.6	3.6	4.3	10.6	77.7-84.9
Spirometry	78.7	19.6	1.8	0.0	74.5-82.2

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Pneumonia	ICD9: 480.0-486	Pneumonia due to viruses or bacteria may exacerbate bronchitis in patients with COPD (Merck Manual of Geriatrics, p. 447).
Acute bronchitis	ICD9: 466.0,490 491.21	An acute attack of bronchitis in an elderly person with COPD is usually due to viral infection (Cassel et al., p. 371).
Influenza	ICD9: 487.0-487.8	Viral infections (e.g., influenza) may lead to exacerbation of bronchitis in patients with COPD (Merck Manual of Geriatrics, p. 447).
Congestive heart failure	ICD9: 402.01,402.11 402.91 428.0-428.9 429.9	Heart failure is a common form of cardiac decompensation in elderly patients with COPD (Merck Manual of Geriatrics, p. 451).

COPD

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Pneumonia	141	150	4.65	10.61	18.27	3.93- 5.42
Acute bronchitis	62	64	2.05	16.39	19.10	1.57- 2.57
Influenza	0	0	0.00	N/A	N/A	N/A
CHF	123	154	4.06	8.76	14.27	3.38- 4.78

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Pulmonary specialist	Self-assigned specialty	Pulmonary specialists represent an important source of nonprimary care for COPD patients.
Cardiologist	Self-assigned specialty	Since CHF is often found with COPD, a patient with lung disease may seek care from a cardiologist.
Other specialists	Self-assigned specialty	Patterns of care-seeking by COPD patients may include use of specialists other than pulmonary and cardiac specialists.
Emergency Room	CPT: 90500-90580	Patients with COPD may seek emergency room treatment for acute exacerbations of their pulmonary disease.

COPD

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	17713	58.59	3019	99.64[5]
Other general medicine physicians	2273	7.52	988	32.61
Pulmonry specialists	791	2.62	268	8.84
Cardiologists	599	1.98	245	8.09
Other specialists	6045	20.00	1668	55.05
Emergency rooms	1958	6.48	1008	33.27

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[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

OSTEOARTHRITIS PROFILE
STATE OF MARYLAND

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not A Maryland Provider]
[PHYSICIAN ID: 08 TOTAL]

OSTEOARTHRITIS PROFILE – INTRODUCTION

This profile presents data for patients with osteoarthritis, defined by a single claim for a visit with the diagnosis code of 715.xx.

Significance

A result of aging, OA is the leading cause of disability in the elderly and each year accounts for over 400,000 hospitalizations among that age group in the U.S. Therapeutic goals are pain relief, prevention of further joint damage, and maintenance of functional independence (Goroll, p. 696; NCHS).

Abbreviations

ABFP = American Board of Family Practice
GI = Gastrointestinal
NCHS = National Center for Health Statistics
NSAIDs = Nonsteroidal antiinflammatory drugs
OA = Osteoarthritis
PT = Physical therapy

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OSTEOARTHRITIS

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home) visit	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	The primary care visit is important in monitoring the course of a progressive disease. The American College of Rheumatology (p. 12) suggests a minimum of an annual visit to a primary care physician. Any patient who appears in this profile meets this minimum requirement.

Limited Use Care	Data Source	Notes
Physical therapy visits	CPT: 97110-97799 97145	Physical therapy can play an important role in aiding an individual with osteoarthritis to maintain or improve flexibility and mobility. Cassell (p. 190) suggests that physical therapy visits are an important part of a total therapeutic plan for arthritis. Physical therapy is listed as a limited use item because not all patients will require the specialized services offered by PT.
Diathermy	CPT: 97024	Diathermy generates heat aimed at specific joints, thereby relieving the discomfort of arthritis and improving the patient's mobility. Although heat is often recommended for arthritic patients, the mechanism of benefit is unknown (Scientific American, p. 7). Goroll suggests that diathermy may be an expensive alternative where simpler measures would suffice (p. 698).
Ultrasound	CPT: 97128	Therapeutic ultrasound warms affected joints. As with diathermy, Goroll (p. 698) suggests that less expensive methods for relieving pain and discomfort exist.
Hot or cold packs	CPT: 97010	Hot or cold packs represent the inexpensive alternative to ultrasound and diathermy. As mentioned above, the mechanism of benefit for heat or cold is unknown (Scientific American, p. 7).
Exercises	CPT: 97110-97114 97260-97261 97530-97531	Passive range-of-motion exercise can sometimes aid the maintenance of joint motion (Scientific American, p. 7). Active exercise may help preserve muscle strength (Scientific American, p. 7). Isometric exercises may also help (Scientific American, p. 7). The benefit from exercise will depend on the individual patient, hence the inclusion as a limited use item.

OSTEOARTHRITIS

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with osteoarthritis: 4291	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	11.8	46.1	31.2	10.9	10.8-12.7
General medical visits (last 6 months)	13.1	43.9	30.7	12.2	12.1-14.1
LIMITED USE CARE					
Physical therapy visits	94.5	1.9	0.8	2.8	93.7-95.1
Diathermy	86.9	13.1	0.0	0.0	85.8-87.8
Ultrasound	97.3	1.0	0.7	1.0	96.8-97.7
Hot or cold packs	98.2	0.5	0.4	0.9	97.8-98.6
Exercises	97.6	0.6	0.6	1.2	97.1-98.1

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Osteoarthritis	ICD9: 715.xx	Patients with severe arthritis may occasionally require hospitalization for the management of their arthritis or its complications (American College of Rheumatology, p. 12).
Hip replacement	CPT: 27130-27138 ICD9: 81.51-81.53 81.61-81.69	Patients with advanced hip disease may be candidates for hip replacement (Scientific American, p. 8; Harrison's, p. 1479).
Knee replacement	CPT: 27437-27447 ICD9: 81.41,81.54	Patients with advanced knee disease may be candidates for knee replacement (Scientific American, p. 8; Merck Manual of Geriatrics, p. 756).
Acute renal failure	ICD9: 584.xx 586.xx	Prolonged treatment with NSAIDs can lead to acute renal failure. Although drugs are not included in the claims data base, the sequelae are included. This component includes patients with a variety of etiologies (Scientific American, p. 7; Cassel, p. 191).
GI bleeding or ulcer	ICD9: 531.00-535.61 578.0-578.9	A common side effect of treatment with NSAIDs is GI bleeding or ulceration. Many patients with OA will be taking NSAIDs. This component includes patients with a variety of etiologies (Cassel, p. 191).

OSTEOARTHRITIS

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Osteoarthritis	179	188	4.17	28.66	62.76	3.59- 4.78
Hip replacement	80	84	1.86	32.86	66.11	1.48- 2.28
Knee replacement	121	126	2.82	28.18	65.44	2.34- 3.33
Acute renal failure	7	7	0.16	50.00	9.50	0.06- 0.30
GI bleeding or ulcer	40	42	0.93	2.78	27.06	0.66- 1.24

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

OSTEOARTHRITIS

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Orthopedic surgeons	Self-assigned specialty	Patients with severe limitation of motion may require joint replacement by an orthopedic surgeon.
Other specialists	Self-assigned specialty	
Emergency Room	CPT: 90500-90580	Patients may visit the emergency room for reasons related or unrelated to OA. Sometimes, however, the patient uses the emergency room as the primary source of care.
X-rays: Foot	CPT: 73620,73630	Patients with osteoarthritis may require various joint x-rays to monitor the course of their disease (ABFP, Osteoarthritis Guide, p. 8).
Hip	CPT: 73500,73510 73520,73525 73526,73530	
Knee	CPT: 73560,73562 73564,73580 73581	
Spine	CPT: 72010,72020 72040,72050 72052,72072 72074,72080 72090,72100 72110,72114 72120	

OSTEOARTHRITIS

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	21037	53.61	4275	99.63[5]
Other general medicine physicians	2758	7.03	1253	29.20
Orthopedic surgeons	0	0.00	0	0.00
Other specialists	10230	26.07	2769	64.53
Emergency rooms	1593	4.06	938	21.86
X-rays:				
Foot x-ray	565	100.00	340	7.92
Hip x-ray	875	100.00	574	13.38
Knee x-ray	1635	100.00	963	22.44
Spine x-ray	1092	100.00	811	18.90

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[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

Chapter 7
The DEMPAQ Claims Review System: Results for Alabama

Physician practice profiling provides a claims-based instrument to gauge the quality and cost-effectiveness of a medical care from a very broad perspective. Most physician profiles focus exclusively on cost or utilization comparisons to other peers in a health plan or region. Many times, when utilization based profiles are distributed to physicians without any formal process for provider feedback and education, the reactions from physicians can be negative and counter-productive to a quality improvement initiative. As a result, the DEMPAQ researchers sought to develop profiles that would immediately convey a focus on quality by their appearance alone. To meet this goal two types of profiles were developed: the office practice profile and the condition-specific profile. A complete set of the profiles for family practice physicians in Alabama follows a brief introduction of the contents of the condition-specific profiles.

The Office Practice Profile
The office practice profile was developed to reinvent the concept of the utilization based physician profile. The office practice profile was individualized for all participating physicians in each of the three study states and is not included here. An example of an individual office practice profile was submitted with the Feedback and Education Modification to the Original DEMPAQ Contract in December 1993.

The Condition-specific Profile
The design of the condition-specific profile is a major departure from the more utilization-based profiles used by private insurers. The first step of creating a condition-specific profile is the identification of patient population with a particular medical condition of interest. We chose to focus on six major medical conditions in Medicare beneficiaries:

- Diabetes;
- Hypertension;
- Ischemic Heart Disease;
- Congestive Heart Failure;
- COPD; and
- Osteoarthritis.

Patients with each of these conditions were assigned a primary care source (PCS) to act as a proxy for a physician "gatekeeper" in the medical population. Each PCS's patient population claims history was summarized with a focus on the use of medical procedures strongly related to quality of care provided. In the example profile that follows, Table 1 describes the use of recommended and limited use procedures for a medical condition. For medical procedures where comorbidities could be important, extensions of Table 1 represented as Tables 1B through 1D, are provided for each possibly comorbidity. Table 2 describes the admission rates for inpatient procedures commonly associated with condition under consideration. Table 3 concludes the profile with a summary of the medical visit referral patterns of the PCS's patients to other specialists. It should be noted that no representation of cost or overall utilization of services were included in any condition-specific profiles. Also, we chose to provide only specialty-specific profiles since the individual physician sample sizes were too small to be statistically reliable.

DEMPAQ CLAIMS REVIEW SYSTEM (DCRS)

Reports from DEMPAQ Claims Review

Family Practice (08)

September 24, 1993

OFFICE PRACTICE

This section is designed to include specific information for individual physicians, and has been omitted in this particular book for reasons of confidentiality.

DEMPAQ CLAIMS REVIEW SYSTEM

DIABETES PROFILE
STATE OF ALABAMA

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not An Alabama Provider]
[PHYSICIAN ID: 08 TOTAL]

DIABETES PROFILE – INTRODUCTION

This profile presents data for patients with diabetes, defined by a single claim for a physician visit with the diagnosis code of 250.xx.

Significance

Diabetes mellitus, the most common endocrine disease, is a chronic disease that requires continuing medical care and education to prevent acute complications and reduce the risk of long-term complications. The prevalence of non-insulin-dependent diabetes mellitus increases with age.

Abbreviations

ABFP = American Board of Family Practice
ADA = American Diabetes Association
DM = Diabetes mellitus
HDL = High-density lipoprotein
LDL = Low-density lipoprotein
Type I diabetes = insulin-dependent DM
Type II diabetes = non-insulin-dependent DM

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DIABETES

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home visit)	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	According to the ABFP, visits for diabetic patients in control should be scheduled every 3-6 months (ABFP, p. 36)
Hemoglobin A1C test	CPT: 83036	Since the hemoglobin A1C test gives a good indication of the level of glucose control, it is recommended every 2 to 3 months (ABFP, p. 37) or every 6 months (ADA, p. 367).
Urinalysis	CPT: 81000,81002 81005,81099 84180,84185 84190	Annual urinalysis is recommended to check for proteinuria (ABFP, p. 38; ADA, p. 367). Proteinuria is an early manifestation of diabetic nephropathy (Branch, p. 785). Note: If urinalysis is done in the physician's office, it may not be billed separately.
Triglycerides	CPT: 84478 80061-80062 80065 83705 83720	Triglycerides should be tested annually (ADA, p. 367). Hypertriglyceridemia is common in diabetics (Harrison's, p. 1756).
Total cholesterol	CPT: 82465,82470 83700-83720 80012-80019 80065 80050 80053 80060-80062	Total cholesterol should be tested annually (ADA, p. 367) because diabetics are prone to have arteriosclerosis and have an increased risk of myocardial infarction (Harrison's, p. 1733).
HDL cholesterol	CPT: 83718 80061-80062 80065	HDL cholesterol should be tested annually (ADA, p. 367). In diabetics the ratio of HDL to LDL is altered and the risk of arteriosclerotic disease is increased (Harrison's, p. 1753).
Ophthalmology visit	CPT: 92002-92019 92225-92260	A complete eye and visual examination should be performed annually (ADA, p. 367). This examination is important to detect early signs of retinopathy (Harrison's, p. 1753) or cataract (Branch, p. 784).
	90000-90080 90600-90699 90750,90760	These codes are acceptable if reported by an ophthalmologist. Optometry visits in an optical shop are probably not billed to Medicare.

Limited Use Care	Data Source	Notes
Blood glucose	CPT: 82947-82952 80006-80019	While many physicians use blood glucose to monitor patients with diabetes, guidelines from ABFP (p. 37) and ADA recommend hemoglobin A1C for diabetes monitoring. In some cases, blood glucose tests may be a valuable adjunct to the hemoglobin A1C test. The blood glucose test is listed in the limited use category because it is sometimes appropriate for patients taking insulin. However, Medicare data do not indicate which drugs are used by a patient and may not indicate whether diabetes is type I or type II. Home blood glucose monitoring is not captured by these data

DIABETES

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with diabetes: 12136	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	10.1	35.5	34.5	19.9	9.6-10.7
General medical visits (last 6 months)	10.3	32.8	35.1	21.7	9.8-10.8
Hemoglobin A1C tests	91.3	7.6	1.0	0.1	90.8-91.8
Urinalysis	45.3	31.5	14.2	9.0	44.4-46.1
Triglycerides	70.6	22.4	5.2	1.8	69.7-71.4
Total cholesterol	46.3	27.5	16.9	9.2	45.4-47.2
HDL cholesterol	68.7	25.8	4.6	0.9	67.9-69.5
Ophthalmology visits	62.7	26.2	8.9	2.3	61.8-63.5
LIMITED USE CARE					
Blood Glucose	8.0	29.4	30.9	31.7	7.5- 8.4

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Ketoacidosis	ICD9: 250.1	Ketoacidosis is an acute metabolic complication of diabetes (Harrison's, p. 1749).
Hyperosmolar coma	ICD9: 250.2	Hyperosmolar nonketotic hyperglycemia can cause coma in the diabetic (Harrison's, p. 2051-2).
Other coma	ICD9: 250.3	Hyperglycemia with ketoacidosis is one of several conditions that can cause coma in diabetic patients (Harrison's, p. 2051-2).
Hypoglycemic coma	ICD9: 251.0	Hypoglycemia is a common complication of diabetes and may lead to coma (ABFP, p. 25; Harrison's, p. 1747).
Lower-extremity amputation	CPT: 27590-27598 27880-27889 28800-28825	Since diabetics are prone to arteriosclerotic vascular disease and foot ulcers (Harrison's, p. 1753), failure to inspect the feet or to teach patients proper foot care may contribute to the need for lower-extremity amputation

DIABETES

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Ketoacidosis	1	1	0.01	0.00	0.00	0.00- 0.03
Hyperosmolar coma	2	2	0.02	0.00	0.00	0.00- 0.04
Other coma	0	0	0.00	N/A	N/A	N/A
Hypoglycemic coma	6	6	0.05	16.67	16.80	0.01- 0.09
Lower extremity amputation	40	58	0.33	22.73	11.12	0.23- 0.43

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

DIABETES

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Ophthalmologist or optometrist	Self-assigned specialty	Patients with diabetes need regular eye examinations with dilated pupils.
Podiatrist	Self-assigned specialty	Since foot problems are common in diabetics, these patients may require podiatric services.
Cardiologist	Self-assigned specialty	Since arteriosclerotic heart disease is a complication of diabetes, cardiologists are an important source of nonprimary care for these patients.
Other specialists	Self-assigned specialty	Patients with diabetes may require a specialist's care for conditions related or unrelated to diabetes.
Emergency room	CPT: 90500-90580	Patients with diabetes may seek emergency room treatment for sudden worsening of their condition. Use of the emergency room may indicate failure of control in the ambulatory care setting or failure of patient compliance with therapy.

DIABETES

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	71345	63.75	11990	98.80[5]
Other general medicine physicians	12060	10.78	4422	36.44
Ophthalmologists	2758	2.46	1404	11.57
Podiatrists	577	0.52	287	2.36
Cardiologists	1442	1.29	628	5.17
Other specialists	16915	15.11	5339	43.99
Emergency rooms	6814	6.09	3626	29.88

[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

HYPERTENSION PROFILE
STATE OF ALABAMA

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not An Alabama Provider]
[PHYSICIAN ID: 08 TOTAL]

HYPERTENSION PROFILE – INTRODUCTION

This profile presents data for patients with hypertension, defined by a single claim for a physician visit with the diagnosis code of 401.00, 401.1, or 401.9 and without congestive heart failure.

Significance

Hypertension is a major cause of morbidity and mortality in the U.S. Adequate control of blood pressure can prevent many of the serious sequelae of hypertension.

Abbreviations

ABFP = American Board of Family Practice
ACE = Angiotensin-converting enzyme
AMI = Acute myocardial infarction
CHF = Congestive heart failure
CVA = Cerebrovascular accident
DM = Diabetes mellitus
IHD = Ischemic heart disease
TIA = Transient cerebral ischemic attack

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HYPERTENSION

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services

Recommended Care	Data Source	Notes
Primary care office (home visit)	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	The primary care visit for patients with hypertension is important for monitoring drug doses and side effects. For this profile, 2 visits per year are considered minimal care

Limited Use Care	Data Source	Notes
Creatinine	CPT: 80012-80019 80060,80065 80073,82546 82565	A serum creatinine test should be part of the initial evaluation for a patient with hypertension (ABFP, p. 11). Increased serum creatinine levels indicate renal dysfunction, which may be a sequela of hypertension or its therapy (Harrison's, p. 1006, 1010-11, 1014).
Triglycerides	CPT: 80061-80062 80065,83705 83720,84478	Measurement of serum triglycerides is useful at initial evaluation (and later for some patients) because it aids assessment of other cardiovascular risk factors and gives guidance for therapy (ABFP, p. 11; Goroll, p. 100, 482).
Total cholesterol	CPT: 80012-80019 80050,80053 80060-80062 80065,82465, 82470 83700-83720	Discretionary monitoring of total cholesterol provides information on an additional risk factor and guidance for therapy (ABFP, p. 11).
Serum potassium	CPT: 80002-80019 80060,80062 80065,84132	Close monitoring of serum potassium is necessary for patients who are receiving diuretics or ACE inhibitors (Harrison's, p. 1010; DE, p. 488). A low serum potassium level may indicate primary aldosteronism (ABFP, p. 11)

HYPERTENSION

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension: 23920	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	14.2	42.6	30.7	12.6	13.7-14.6
General medical visits (last 6 months)	11.4	41.3	32.9	14.4	11.0-11.8
LIMITED USE CARE					
Creatinine	46.1	45.5	7.3	1.1	45.4-46.7
Triglycerides	68.9	24.7	5.0	1.3	68.3-69.5
Total cholesterol	42.0	32.3	17.6	8.1	41.4-42.7
Serum potassium	38.0	45.7	12.8	3.5	37.4-38.6

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1a. Process Measures: Distribution of Services – Age

Table 1a, on the facing page, shows the same information as Table 1 for patients age 65-79. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

HYPERTENSION AND AGE 65-79

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension and age 65-79: 20432	

able 1A. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	14.4	42.5	30.6	12.5	13.9-14.9
General medical visits (last 6 months)	11.2	41.3	33.0	14.4	10.8-11.7
LIMITED USE CARE					
Creatinine	45.9	45.6	7.4	1.1	45.3-46.6
Triglycerides	68.3	24.9	5.3	1.5	67.6-68.9
Total cholesterol	41.5	32.2	17.8	8.5	40.8-42.2
Serum potassium	38.0	45.8	12.8	3.4	37.3-38.6

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

HYPERTENSION AND AGE 80+

Table 1b. Process Measures: Distribution of Services -- Age

Table 1b, on the facing page, shows the same information as Table 1 for patients age 80+. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

HYPERTENSION AND AGE 80+

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension and age 80+: 3488	

Table 1B. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	12.9	42.8	31.0	13.2	11.8-14.1
General medical visits (last 6 months)	12.3	41.1	32.3	14.2	11.3-13.4
LIMITED USE CARE					
Creatinine	46.8	45.3	6.9	1.0	45.2-48.5
Triglycerides	72.6	23.6	3.4	0.5	71.1-74.1
Total cholesterol	45.2	32.9	16.0	5.8	43.6-46.9
Serum potassium	38.3	45.2	12.4	4.1	36.7-39.9

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1c. Process Measures: Distribution of Services -- Two Conditions

Table 1c, on the facing page, shows the same information as Table 1 for patients with hypertension and ischemic heart disease. If you compare Tables 1 and 1c, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1c than on Table 1 because these measures relate to both conditions.

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice

Total number of primary patients with hypertension and IHD: 3611

Table 1C. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.4	33.4	37.0	21.2	7.5- 9.3
General medical visits (last 6 months)	6.7	30.4	39.1	23.8	5.9- 7.5
LIMITED USE CARE					
Creatinine	43.5	43.8	10.7	2.1	41.8-45.1
Triglycerides	63.8	27.0	7.0	2.2	62.2-65.4
Total cholesterol	38.2	30.4	19.4	11.9	36.6-39.8
Serum potassium	34.8	42.5	17.4	5.3	33.2-36.3
Coronary catheterization	99.0	1.0	0.0	0.0	98.6-99.3
ECG without exercise	36.8	48.0	13.2	2.0	35.2-38.4
Exercise stress test	86.1	13.3	0.6	0.0	84.9-87.2
Echocardiography	88.7	8.5	2.5	0.2	87.6-89.7
Radionuclide study without exercise	98.9	0.9	0.1	0.1	98.6-99.2
Radionuclide study with exercise	93.0	6.8	0.2	0.0	92.1-93.8

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Cerebrovascular accident	ICD9: 434,434.x, 436,437,437.0, 437.1,437.9	Patients with hypertension have an increased risk of stroke, which may be due to ischemia or intracerebral hemorrhage (Harrison's, p. 1978).
Transient cerebral ischemic attack	ICD9: 435-435.9	The cerebrovascular conditions that often accompany hypertension may lead to either TIA or CVA (Harrison's, p. 1977-8).
Acute myocardial infarction	ICD9: 410.xx-414.xx	Hypertension is a risk factor for both IHD and AMI (Merck, p. 337).
Hyperkalemia	ICD9: 276.7	Beta-blockers and ACE inhibitors (drugs often taken by patients with hypertension) increase the risk of hyperkalemia, particularly for patients with impaired renal function (Harrison's, p. 288; DE, p. 488).
Hypokalemia	ICD9: 276.8	The risk of hypokalemia is especially high for elderly patients being treated with both digitalis and a thiazide diuretic (ABFP, p. 24).
Congestive heart failure	ICD9: 402.01,402.11 402.91,428.xx	Hypertension predisposes the affected patient to CHF (Merck, p. 337).

HYPERTENSION

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Cerebrovascular Accident	119	134	0.50	22.83	16.80	0.41- 0.59
Trans. Cerebral Ischemic Attack	64	67	0.27	20.00	29.27	0.20- 0.33
Acute Myocardial Infarction	260	362	1.09	22.01	12.59	0.95- 1.22
Hyperkalemia	0	0	0.00	N/A	N/A	N/A
Hypokalemia	2	2	0.01	50.00	0.00	0.00- 0.02
Congestive Heart Failure	25	26	0.10	21.74	5.28	0.06- 0.14

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

HYPERTENSION

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physicians	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Cardiologist	Self-assigned specialty	Since heart disease is a common sequela of hypertension, cardiologists are an important source of nonprimary care for patients with hypertension.
Other specialists	Self-assigned specialty	Patterns of care-seeking by patients with hypertension may include use of specialists other than cardiologists.
Emergency Room	CPT: 90500-90580	Patients with hypertension may seek emergency room treatment for acute complications of hypertension.

HYPERTENSION

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	115119	62.33	23685	99.02[5]
Other general medicine physicians	19163	10.38	8018	33.52
Cardiologists	2096	1.13	939	3.93
Other specialists	38856	21.04	11831	49.46
Emergency rooms	9458	5.12	5590	23.37

[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

ISCHEMIC HEART DISEASE PROFILE
STATE OF ALABAMA

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not An Alabama Provider]
[PHYSICIAN ID: 08 TOTAL]

ISCHEMIC HEART DISEASE PROFILE -- INTRODUCTION

This profile presents data for patients with ischemic heart disease, defined by a single claim with the diagnosis code of 410.xx-414.xx.

Significance

IHD has an overall prevalence among the U.S. elderly of about 14% and in 1988 accounted for nearly 2.4 million hospitalizations for persons over age 65 (NCHS, 1991). While medical and surgical treatments help some patients, the best therapy is risk-factor reduction and treatment of aggravating conditions (Goroll, p. 128).

Abbreviations

ABFP = American Board of Family Practice
ACP = American College of Physicians
AMI = Acute myocardial infarction
CABG = Coronary artery bypass graft
CAD = Coronary artery disease
CHF = Congestive heart failure
ECG = Electrocardiogram
HDL = High density lipoprotein cholesterol
IHD = Ischemic heart disease
NCHS = National Center for Health Statistics
PTCA = Percutaneous transluminal coronary angioplasty

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ISCHEMIC HEART DISEASE

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home) visit or visit with specialist, once in each half year	CPT: 90000-90170 (90100-90170) 90600-90699 90750,90760	The regular follow-up of patients with ischemic heart disease is important to monitor for management of angina, infarction, cardiac failure, or arrhythmias. The ABFP recommends follow-up at 3- to 6-month intervals for patients with ischemic heart disease (ABFP, p. 37).

Limited Use Care	Data Source	Notes
Total cholesterol	CPT: 80012-80019 80050,80053 80060-80062 80065,82465 82470 83700-83720	Elevated serum cholesterol is a known risk factor for AMI (Goroll et al., p. 42). The ACP (Hayward et al., p. 769) and the ABFP (ABFP, p. 37) recommend frequent or appropriately timed cholesterol tests for patients with IHD.
HDL cholesterol	CPT: 80061-80062 80065,83718	Since risk of CAD is inversely correlated with HDL cholesterol level, periodic monitoring of HDL cholesterol is warranted for assessment of risk (Goroll, p. 97).
Coronary catheterization	CPT: 93547-93553	The extent of coronary disease, as revealed by coronary angiography is an important predictor of the risk of death from CAD. Coronary angiography is indicated for selected patients, including those with incapacitating angina who are already on a maximum medical program. (Scientific American, p. 8; ABFP. p. 12)
ECG without exercise	CPT: 93000-93014	The resting ECG is a standard tool in diagnosing ischemic heart disease (ABFP, p. 10). ST depression indicates ischemia.
Exercise stress test	CPT: 93015,93017 93018	In the absence of an ST-segment depression on a resting ECG, an exercise stress test can help in diagnosing ischemic heart disease in patients with chest pain (ABFP, p. 10) or silent ischemia.
Echocardiography	CPT: 93307-93350	A resting echocardiogram can identify myocardial involvement, provide a good measure of ventricular size and function, and help rule out other types of cardiac disease such as cardiomyopathy or valvular disease (ABFP, p. 12).
Radionuclide study without exercise	CPT: 78414-78445 78460,78464 78466-78474 78481,78484	A resting radionuclide study can be useful in distinguishing the etiology of cardiac disease (e.g., a poorly functioning left ventricle versus coronary disease). Multigated studies provide data about the size, contraction pattern, and ejection fraction of a resting heart (Scientific American, p. 6). Nuclear medicine studies tend to be more expensive than other studies, however, and physicians may wish to limit their use (ABFP, p. 12).
Radionuclide study with exercise	CPT: 78461,78465 78475-78479 78485,78486 78487,78489	A radionuclide study with exercise can demonstrate areas of ischemia by showing defects that reperfuse after rest. Information about wall motion abnormalities and ejection fraction contribute to the diagnosis of ischemia (Harrison's, p. 966). The caveat about the use of radionuclide studies also applies here.

ISCHEMIC HEART DISEASE

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with ischemic heart disease: 12039	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	11.4	34.3	34.0	20.3	10.8-12.0
General medical visits (last 6 months)	10.5	32.7	34.6	22.2	9.9-11.0
LIMITED USE CARE					
Total cholesterol	43.5	28.1	18.3	10.2	42.6-44.3
HDL cholesterol	65.3	29.1	4.8	0.9	64.4-66.1
Coronary catheterization	99.1	0.9	0.0	0.0	98.9-99.2
ECG without exercise	37.1	47.0	13.4	2.5	36.2-38.0
Exercise stress test	87.4	12.1	0.4	0.0	86.8-88.0
Echocardiography	88.2	8.5	2.9	0.4	87.6-88.8
Radionuclide study without exercise	98.4	1.4	0.1	0.1	98.2-98.6
Radionuclide study with exercise	93.7	6.1	0.1	0.0	93.2-94.1

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

ISCHEMIC HEART DISEASE AND AGE 65-79

Table 1a. Process Measures: Distribution of Services -- Age

Table 1a, on the facing page, shows the same information as Table 1 for patients age 65-79. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

IHD AND AGE 65-79

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice

Total number of primary patients with IHD and age 65-79: 9593

Table 1A. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	11.8	34.7	33.7	19.9	11.1-12.4
General medical visits (last 6 months)	10.3	33.1	34.5	22.2	9.7-10.9
LIMITED USE CARE					
Total cholesterol	42.2	28.6	18.3	11.0	41.2-43.2
HDL cholesterol	63.9	30.1	5.1	0.9	62.9-64.8
Coronary catheterization	98.9	1.1	0.0	0.0	98.7-99.1
ECG without exercise	35.9	47.9	13.7	2.5	35.0-36.9
Exercise stress test	85.1	14.4	0.5	0.0	84.3-85.8
Echocardiography	87.5	8.9	3.1	0.4	86.8-88.1
Radionuclide study without exercise	98.2	1.6	0.1	0.1	98.0-98.5
Radionuclide study with exercise	92.5	7.3	0.2	0.0	91.9-93.0

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

ISCHEMIC HEART DISEASE AND AGE 80+

Table 1b. Process Measures: Distribution of Services -- Age

Table 1b, on the facing page, shows the same information as Table 1 for patients age 80+. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different

IHD AND AGE 80+

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with IHD and age 80+: 2446	

Table 1B. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int
RECOMMENDED CARE	0	1-2	3-5	>5	% with 0*
General medical visits (first 6 months)	9.8	32.9	35.4	21.9	8.7-11.0
General medical visits (last 6 months)	11.2	31.4	35.2	22.2	9.9-12.4
LIMITED USE CARE					
Total cholesterol	48.5	26.5	18.1	7.0	46.5-50.4
HDL cholesterol	70.8	25.2	3.4	0.7	68.9-72.5
Coronary catheterization	99.8	0.2	0.0	0.0	99.5-99.9
ECG without exercise	41.6	43.7	12.2	2.5	39.7-43.6
Exercise stress test	96.8	3.1	0.1	0.0	96.0-97.4
Echocardiography	91.0	6.7	2.2	0.2	89.8-92.0
Radionuclide study without exercise	99.2	0.8	0.0	0.0	98.7-99.5
Radionuclide study with exercise	98.5	1.5	0.0	0.0	97.9-98.9

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

HYPERTENSION AND ISCHEMIC HEART DISEASE

Table 1c. Process Measures: Distribution of Services -- Two Conditions

Table 1c, on the facing page, shows the same information as Table 1 for patients with hypertension and ischemic heart disease. If you compare Tables 1 and 1c, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition

Please note that there are more services listed on Table 1c than on Table 1 because these measures relate to both conditions.

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension and IHD: 3611	

Table 1C. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.4	33.4	37.0	21.2	7.5- 9.3
General medical visits (last 6 months)	6.7	30.4	39.1	23.8	5.9- 7.5
LIMITED USE CARE					
Creatinine	43.5	43.8	10.7	2.1	41.8-45.1
Triglycerides	63.8	27.0	7.0	2.2	62.2-65.4
Total cholesterol	38.2	30.4	19.4	11.9	36.6-39.8
Serum potassium	34.8	42.5	17.4	5.3	33.2-36.3
Coronary catheterization	99.0	1.0	0.0	0.0	98.6-99.3
ECG without exercise	36.8	48.0	13.2	2.0	35.2-38.4
Exercise stress test	86.1	13.3	0.6	0.0	84.9-87.2
Echocardiography	88.7	8.5	2.5	0.2	87.6-89.7
Radionuclide study without exercise	98.9	0.9	0.1	0.1	98.6-99.2
Radionuclide study with exercise	93.0	6.8	0.2	0.0	92.1-93.8

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1d. Process Measures: Distribution of Services -- Two Conditions

Table 1d, on the facing page, shows the same information as Table 1 for patients with congestive heart failure and ischemic heart disease. If you compare Tables 1 and 1d, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1d than on Table 1 because these measures relate to both conditions.

CHF AND IHD

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and IHD: 3184	

Table 1D. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.0	24.4	35.7	31.8	7.1- 8.9
General medical visits (last 6 months)	7.9	23.4	34.3	34.4	7.0- 8.9
Serum potassium	26.4	38.7	21.9	13.1	24.8-27.9
LIMITED USE CARE					
Echocardiography	83.6	10.8	4.7	0.9	82.3-84.8
ECG	31.9	45.3	17.7	5.1	30.3-33.5
Chest x-ray	33.4	44.0	17.3	5.3	31.8-35.1
Contrast angiography	99.2	0.8	0.0	0.0	98.8-99.4
Excercise stress test	92.8	6.1	0.9	0.1	91.9-93.7
Total cholesterol	42.7	26.9	17.6	12.8	41.0-44.5
HDL cholesterol	66.6	26.4	5.6	1.4	64.9-68.2
Coronary catheterization	99.2	0.8	0.0	0.0	98.8-99.4
Exercise stress test	92.8	6.1	0.9	0.1	91.9-93.7
Radionuclide study without exercise	97.6	2.4	0.0	0.0	97.0-98.1
Radionuclide study with exercise	95.6	4.3	0.1	0.0	94.8-96.3

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Acute myocardial infarction	ICD9: 410.00-410.91	A myocardial infarction can result from ischemic heart disease.
Ventricular arrhythmia	ICD9: 427.1,427.41 427.42	Ventricular tachycardia and ventricular fibrillation may occur in patients with a myocardial infarction (Harrison's, p. 958).
Congestive heart failure	ICD9: 402.01,402.11 402.91 428.0-428.9 429.9	Left heart failure can result from a myocardial infarction (Harrison's, p. 960).

ISCHEMIC HEART DISEASE

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Acute Myocardial Infarction	251	266	2.08	18.88	14.60	1.83- 2.34
Ventricular arrhythmia	12	17	0.10	7.69	6.83	0.05- 0.16
Congestive Heart Failure	300	384	2.49	26.75	12.71	2.22- 2.77

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

ISCHEMIC HEART DISEASE

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Cardiologists	Self-assigned specialty	Cardiology specialists represent an important source of nonprimary care for IHD patients.
Cardiac/thoracic surgeons	Self-assigned specialty	Patients requiring surgery will generally visit a cardiac or thoracic surgeon.
Other specialists	Self-assigned specialty	Patients with IHD may require a specialist's care for conditions related or unrelated to IHD.
Emergency Room	CPT: 90500-90580	Patients with IHD may seek emergency room treatment for sudden worsening of their condition. In addition, the primary care physician may refer them to the emergency room if a myocardial infarction is suspected.

ISCHEMIC HEART DISEASE

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	70316	57.47	11807	98.07[5]
Other general medicine physicians	12748	10.42	4648	38.61
Cardiologists	4703	3.84	2086	17.33
Cardiac/thoracic surgeons	457	0.37	324	2.69
Other specialists	22105	18.07	6415	53.29
Emergency rooms	9501	7.77	4878	40.52

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[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

CONGESTIVE HEART FAILURE PROFILE
STATE OF ALABAMA

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not An Alabama Provider]
[PHYSICIAN ID: 08 TOTAL]

CONGESTIVE HEART FAILURE PROFILE – INTRODUCTION

This profile presents data for patients with congestive heart failure, defined by a single claim for a visit with the diagnosis code of 402.01, 402.11, 402.91, or 428.xx.

Significance

In the U.S., heart failure affects more than 2 million people and results in 900,000 hospitalizations yearly. Prevalence increases with age and is nearly 10% among persons >80 years of age. Since CHF is an end-stage disease, treatment has limited potential. Prevention, by modifying risk factors and correcting functional disturbances, is a more promising means of reducing morbidity and mortality (Kannel and Belanger, 1991).

Abbreviations

ABFP = American Board of Family Practice
AMI = Acute myocardial infarction
CHF = Congestive heart failure
COPD = Chronic obstructive pulmonary disease
ECG = Electrocardiogram
IHD = Ischemic heart disease

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CONGESTIVE HEART FAILURE

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home) visit or visit with cardiologist	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	The primary care visit for patients with CHF is important in monitoring drug doses, drug side effects, or symptoms of heart failure. Most primary care practitioners schedule office visits 2-4 months apart (Fleg et al., 1989). For this profile, 2 visits per year are considered minimal care.
Potassium, serum	CPT: 80002-80019 80060,80062 80065,84132	Close monitoring of serum potassium is necessary for patients who are receiving diuretics, as most patients with CHF do (Cohn, 1989).

Limited Use Care	Data Source	Notes
Echocardiography	CPT: 93307-93350	Echocardiography (sonography) can provide accurate measurements of cardiac chambers, wall thickness, and valvular structures (ABFP, CHF Guide, p. 12). This technique should be limited to patients suspected of having cardiac valve disease,.
ECG	CPT: 93000-93014	While ECGs do not confirm the presence or absence of heart failure, they provide clues to the etiology of the failure (ABFP, CHF Guide, p. 11).
Chest x-ray	CPT: 71010-71035	The chest radiograph provides an indication of underlying cardiac abnormality and information regarding the status of the failure itself (ABFP, CHF Guide, p. 11). While useful, the chest x-ray is not a very sensitive screening test for heart failure (Branch, p. 129). The history and signs detected at physical exam are more important for monitoring and managing the patient with CHF.
Contrast angiography	CPT: 93546-93553	Injection of radiographic contrast agent into coronary arteries or left ventricle permits assessment of coronary artery stenosis or ventricular ejection fraction (Harrison's, p. 872-4). This technique is useful only for patients known or suspected to have IHD in addition to CHF.
Exercise stress test (ECG)	CPT: 93015-93018	Stress testing provides information about ventricular function and myocardial ischemia (Harrison's, p. 966). Exercise testing may help identify the cause of heart failure (ABFP, CHF Guide, p. 12). Exercise tolerance is an important tool to evaluate the efficacy of treatment (Cohn, 1988) and to identify a safe range for heart rate during exercise (Merck, p. 280-1). However, exercise testing is contraindicated for patients with unstable angina, probable AMI, severe aortic stenosis or hypertension, or uncontrolled arrhythmias (Branch, p. 57) or for those who are asymptomatic (Branch, p. 63).

CONGESTIVE HEART FAILURE

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice

Total number of primary patients with congestive heart failure: 8375

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	9.6	29.4	35.3	25.7	9.0-10.2
General medical visits (last 6 months)	10.9	27.5	33.8	27.9	10.2-11.5
Serum potassium	29.9	40.1	19.2	10.8	28.9-30.9
LIMITED USE CARE					
Echocardiography	88.8	7.7	3.0	0.4	88.2-89.5
ECG	47.3	39.4	10.9	2.4	46.2-48.4
Chest x-ray	40.3	42.6	13.7	3.4	39.2-41.3
Contrast angiography	99.7	0.3	0.0	0.0	99.5-99.8
Exercise stress test	96.4	3.6	0.1	0.0	95.9-96.7

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

TAble 1a. Process Measures: Distribution of Services -- Age

Table 1a, on the facing page, shows the same information as Table 1 for patients age 65-79. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

CHF AND AGE 65-79

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and age 65-79: 5847	

Table 1A. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	9.4	28.8	35.7	26.1	8.7-10.2
General medical visits (last 6 months)	10.1	26.5	34.0	29.4	9.3-10.8
Serum potassium	29.7	40.4	19.3	10.7	28.5-30.9
LIMITED USE CARE					
Echocardiography	87.7	8.3	3.4	0.5	86.8-88.5
ECG	45.9	40.3	11.3	2.5	44.6-47.2
Chest x-ray	39.0	43.3	13.9	3.8	37.7-40.2
Contrast angiography	99.6	0.4	0.0	0.0	99.3-99.7
Exercise stress test	95.2	4.7	0.1	0.0	94.6-95.7

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

CONGESTIVE HEART FAILURE AND AGE 80+

Table 1b. Process Measures: Distribution of Services

Table 1b, on the facing page, shows the same information as Table 1 for patients age 80+. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

CHF AND AGE 80+

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and age 80+: 2528	

Table 1B. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	9.9	30.9	34.6	24.6	8.8-11.1
General medical visits (last 6 months)	12.7	29.8	33.2	24.2	11.4-14.0
Serum potassium	30.4	39.5	19.2	10.9	28.6-32.2
LIMITED USE CARE					
Echocardiography	91.5	6.3	2.2	0.1	90.3-92.5
ECG	50.6	37.4	10.0	2.0	48.6-52.5
Chest x-ray	43.4	41.2	13.0	2.5	41.4-45.3
Contrast angiography	99.9	0.1	0.0	0.0	99.7- 100
Exercise stress test	99.0	1.0	0.0	0.0	98.5-99.3

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

CONGESTIVE HEART FAILURE AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Table 1c. Process Measures: Distribution of Services – Two Conditions

Table 1c, on the facing page, shows the same information as Table 1 for patients with hypertension and ischemic heart disease. If you compare Tables 1 and 1c, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1c than on Table 1 because these measures relate to both conditions.

CHF AND COPD

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and COPD: 1908	

Table 1C. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.0	23.1	34.0	35.0	6.8- 9.2
General medical visits (last 6 months)	9.5	21.4	32.2	36.8	8.3-10.9
Serum potassium	29.2	35.0	20.9	15.0	27.2-31.2
LIMITED USE CARE					
Echocardiography	86.7	9.1	3.6	0.6	85.1-88.1
ECG	39.6	42.1	14.1	4.2	37.4-41.8
Chest x-ray	24.4	44.7	23.8	7.2	22.5-26.3
Contrast angiography	99.6	0.4	0.0	0.0	99.2-99.8
Excercise stress test	95.9	4.0	0.1	0.0	94.9-96.7
Blood gases	89.4	8.4	1.9	0.3	87.9-90.7
Home oxygen therapy	83.9	2.0	2.7	11.4	82.1-85.4
Spirometry	82.0	13.5	2.7	1.8	80.2-83.7

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

CONGESTIVE HEART FAILURE AND ISCHEMIC HEART DISEASE

Table 1d. Process Measures: Distribution of Services

Table 1d, on the facing page, shows the same information as Table 1 for patients with hypertension and ischemic heart disease. If you compare Tables 1 and 1d, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1d than on Table 1 because these measures relate to both conditions.

CHF AND IHD

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice

Total number of primary patients with CHF and IHD: 3184

Table 1D. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.0	24.4	35.7	31.8	7.1- 8.9
General medical visits (last 6 months)	7.9	23.4	34.3	34.4	7.0- 8.9
Serum potassium	26.4	38.7	21.9	13.1	24.8-27.9
LIMITED USE CARE					
Echocardiography	83.6	10.8	4.7	0.9	82.3-84.8
ECG	31.9	45.3	17.7	5.1	30.3-33.5
Chest x-ray	33.4	44.0	17.3	5.3	31.8-35.1
Contrast angiography	99.2	0.8	0.0	0.0	98.8-99.4
Excercise stress test	92.8	6.1	0.9	0.1	91.9-93.7
Total cholesterol	42.7	26.9	17.6	12.8	41.0-44.5
HDL cholesterol	66.6	26.4	5.6	1.4	64.9-68.2
Coronary catheterization	99.2	0.8	0.0	0.0	98.8-99.4
Exercise stress test	92.8	6.1	0.9	0.1	91.9-93.7
Radionuclide study without exercise	97.6	2.4	0.0	0.0	97.0-98.1
Radionuclide study with exercise	95.6	4.3	0.1	0.0	94.8-96.3

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

CONGESTIVE HEART FAILURE

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Congestive heart failure	ICD9: 402.01,402.11 402.91 428.0-428.9 429.9	Hospitalization for CHF is often due to poor patient adherence to dietary and medical regimes, inadequate physician responses to early signs of CHF decompensation, or both.
Arrhythmias	ICD9: 427.0-427.9	Arrhythmia is both a cause and a complication of heart failure (Harrison's, p. 891; Cohn, 1988).
Pulmonary embolism	ICD9: 415.1	Low cardiac output, sometimes present in CHF, increases the risk of pulmonary emboli (Harrison's, p. 890).
Volume depletion	ICD9: 276.5	Overtreatment of the CHF patient with diuretics may lead to hypovolemia (Harrison's, p. 895), and hospitalization may be necessary to restore fluid and electrolyte balance.

CONGESTIVE HEART FAILURE

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Congestive Heart Failure	482	607	5.76	22.45	11.77	5.26- 6.26
Arrhythmias	123	133	1.47	31.58	14.15	1.22- 1.73
Pulmonary embolism	4	5	0.05	0.00	0.00	0.01- 0.10
Volume depletion	44	46	0.53	20.51	7.87	0.38- 0.69

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

CONGESTIVE HEART FAILURE

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below)

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Cardiologist	Self-assigned specialty	Cardiology specialists represent an important source of nonprimary care for patients with CHF.
Other specialists	Self-assigned specialty	Patients with CHF may require a specialist's care for conditions related or unrelated to CHF.
Emergency Room	CPT: 90500-90580	Patients with CHF may seek emergency room treatment for sudden worsening of their condition. Use of the emergency room may indicate failure of control in the ambulatory care setting or failure of patient compliance with therapy.

CONGESTIVE HEART FAILURE

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	55097	61.25	8172	97.58[5]
Other general medicine physicians	9608	10.68	3333	39.80
Cardiologists	2244	2.49	880	10.51
Other specialists	14829	16.48	4247	50.71
Emergency rooms	8178	9.09	3820	45.61

[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

COPD PROFILE

STATE OF ALABAMA

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not An Alabama Provider]
[PHYSICIAN ID: 08 TOTAL]

CHRONIC OBSTRUCTIVE PULMONARY DISEASE PROFILE – INTRODUCTION

This profile presents data for patients with chronic obstructive pulmonary disease, defined by a single claim for a visit, with the diagnosis code of 491, 491.0-491.9, 492, 492.0, 492.8, or 496.

Significance

COPD (emphysema or bronchitis) affects nearly 10% of the U.S. population over 65 years of age and accounts for about 147,000 hospitalizations annually for that age group. Since COPD is incurable, the goal of management is preservation of function and avoidance of complications (NCHS; Goroll, p. 214).

Abbreviations

ABFP = American Board of Family Practice
CHF = Congestive heart failure
COPD = Chronic obstructive pulmonary disease
NCHS = National Center for Health Statistics

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CHRONIC OBSTRUCTIVE PULMONARY DISEASE PROFILE

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home) visit	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	The primary care visit is important in monitoring the course of a progressive disease. A minimum of 3 visits per year is recommended by the ABFP (COPD Guide, p. 35). For this profile, 2 visits per year are considered minimal care.

Limited Use Care	Data Source	Notes
Spirometry	CPT: 94010-94200	Spirometry provides a measure of a patient's vital capacity and lung functioning. The ABFP COPD Guide (p. 35) recommends that spirometry be performed at every routine visit. Spirometry has been placed in the limited use column to reflect that patients with mild disease may not require frequent or even yearly spirometry.
Chest x-ray	CPT: 71010-71035	A chest x-ray is important in patients with exacerbations of disease to check for pneumonia. Chest x-rays can also assist in making a diagnosis of CHF for patients with COPD. Chest x-rays also can provide information about hyperinflation and changes in vascular markings (Scientific American, Chronic Obstructive Disease of the Lung, p. 11). The ABFP COPD Guide (p. 35) suggests that yearly chest x-rays may be warranted by the patient's clinical condition.
Home oxygen therapy	CPT: E0410,E0416, E0425,E0430, E1400,Q0043, Q0046	Patients with severe COPD (pO_2 <60mm Hg) may benefit from home O_2 therapy (Goroll, p. 218), but the need should be documented. Physicians with a higher proportion of patients on home oxygen therapy than the statewide average may have a patient population that is more severely ill.
Blood gases	CPT: 82790-82817 94700-94715	Blood gases are important to measure oxygenation of the blood and CO_2 retention, factors which may affect the treatment plan. Yearly measurement of blood gases is recommended by the ABFP (COPD Guide, p. 35). Blood gases have been placed in the limited use column to reflect the fact that patients with mild disease may not need a yearly blood gas determination. (Note: Blood gas measurements done in hospital are excluded.)

COPD

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with copd: 7663	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	12.7	32.6	33.0	21.6	12.0-13.5
General medical visits (last 6 months)	11.9	30.2	33.9	24.1	11.2-12.6
LIMITED USE CARE					
Spirometry	79.8	17.4	2.0	0.9	78.8-80.6
Chest x-ray	32.1	48.2	15.9	3.7	31.1-33.2
Home oxygen therapy	91.5	1.3	1.2	6.1	90.8-92.1
Blood gases	91.2	7.1	1.5	0.2	90.6-91.8

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

CONGESTIVE HEART FAILURE AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Table 1c. Process Measures: Distribution of Services -- Two Conditions

Table 1c, on the facing page, shows the same information as Table 1 for patients with congestive heart failure and chronic obstructive pulmonary disease. If you compare Tables 1 and 1c, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1c than on Table 1 because these measures relate to both conditions.

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and COPD: 1908	

Table 1C. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.0	23.1	34.0	35.0	6.8- 9.2
General medical visits (last 6 months)	9.5	21.4	32.2	36.8	8.3-10.9
Serum potassium	29.2	35.0	20.9	15.0	27.2-31.2
LIMITED USE CARE					
Echocardiography	86.7	9.1	3.6	0.6	85.1-88.1
ECG	39.6	42.1	14.1	4.2	37.4-41.8
Chest x-ray	24.4	44.7	23.8	7.2	22.5-26.3
Contrast angiography	99.6	0.4	0.0	0.0	99.2-99.8
Excercise stress test	95.9	4.0	0.1	0.0	94.9-96.7
Blood gases	89.4	8.4	1.9	0.3	87.9-90.7
Home oxygen therapy	83.9	2.0	2.7	11.4	82.1-85.4
Spirometry	82.0	13.5	2.7	1.8	80.2-83.7

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Pneumonia	ICD9: 480.0-486	Pneumonia due to viruses or bacteria may exacerbate bronchitis in patients with COPD (Merck Manual of Geriatrics, p. 447).
Acute bronchitis	ICD9: 466.0,490 491.21	An acute attack of bronchitis in an elderly person with COPD is usually due to viral infection (Cassel et al., p. 371).
Influenza	ICD9: 487.0-487.8	Viral infections (e.g., influenza) may lead to exacerbation of bronchitis in patients with COPD (Merck Manual of Geriatrics, p. 447).
Congestive heart failure	ICD9: 402.01,402.11 402.91 428.0-428.9 429.9	Heart failure is a common form of cardiac decompensation in elderly patients with COPD (Merck Manual of Geriatrics, p. 451).

COPD

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Pneumonia	141	150	1.84	28.03	12.89	1.55- 2.15
Acute bronchitis	62	64	0.81	22.95	8.53	0.62- 1.02
Influenza	0	0	0.00	N/A	N/A	N/A
CHF	123	154	1.61	25.55	9.55	1.33- 1.89

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Pulmonary specialist	Self-assigned specialty	Pulmonary specialists represent an important source of nonprimary care for COPD patients.
Cardiologist	Self-assigned specialty	Since CHF is often found with COPD, a patient with lung disease may seek care from a cardiologist.
Other specialists	Self-assigned specialty	Patterns of care-seeking by COPD patients may include use of specialists other than pulmonary and cardiac specialists.
Emergency Room	CPT: 90500-90580	Patients with COPD may seek emergency room treatment for acute exacerbations of their pulmonary disease.

COPD

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	46038	58.95	7479	97.60[5]
Other general medicine physicians	8679	11.11	2940	38.37
Pulmonry specialists	1305	1.67	454	5.92
Cardiologists	1210	1.55	447	5.83
Other specialists	13633	17.46	3819	49.84
Emergency rooms	6862	8.79	3154	41.16

---

[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

OSTEOARTHRITIS PROFILE
STATE OF ALABAMA

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not An Alabama Provider]
[PHYSICIAN ID: 08 TOTAL]

OSTEOARTHRITIS PROFILE -- INTRODUCTION

This profile presents data for patients with osteoarthritis, defined by a single claim for a visit with the diagnosis code of 715.xx.

Significance

A result of aging, OA is the leading cause of disability in the elderly and each year accounts for over 400,000 hospitalizations among that age group in the U.S. Therapeutic goals are pain relief, prevention of further joint damage, and maintenance of functional independence (Goroll, p. 696; NCHS).

Abbreviations

ABFP = American Board of Family Practice
GI = Gastrointestinal
NCHS = National Center for Health Statistics
NSAIDs = Nonsteroidal antiinflammatory drugs
OA = Osteoarthritis
PT = Physical therapy

References

Abrams WB, Berkow R, eds. Merck Manual of Geriatrics. Rahway, NJ: Merck & Co., 1990.

American College of Rheumatology. Guidelines for Reviewers of Rheumatic Disease Care. Atlanta: American College of Rheumatology, 1989.

Cassel CK, Riesenberg DE, Sorensen LB, et al. Geriatric Medicine, 2nd ed. NY: Springer-Verlag, 1990.

Goroll AH, May LA, Mulley A, eds. Primary Care Medicine, 2nd ed. Philadelphia: JB Lippincott, 1981:642-650.

National Center for Health Statistics. Detailed diagnoses and procedures, National Hospital Discharge Survey, 1989. Vital and Health Statistics, Series 13, no. 108. DHHS publication no. (PHS)91-1769. Hyattsville, MD: National Center for Health Statistics, 1991.

Olson JR. Osteoarthritis Reference Guide, 2nd ed. American Board of Family Practice, 1988.

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OSTEOARTHRITIS

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home) visit	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	The primary care visit is important in monitoring the course of a progressive disease. The American College of Rheumatology (p. 12) suggests a minimum of an annual visit to a primary care physician. Any patient who appears in this profile meets this minimum requirement.

Limited Use Care	Data Source	Notes
Physical therapy visits	CPT: 97110-97799 97145	Physical therapy can play an important role in aiding an individual with osteoarthritis to maintain or improve flexibility and mobility. Cassell (p. 190) suggests that physical therapy visits are an important part of a total therapeutic plan for arthritis. Physical therapy is listed as a limited use item because not all patients will require the specialized services offered by PT.
Diathermy	CPT: 97024	Diathermy generates heat aimed at specific joints, thereby relieving the discomfort of arthritis and improving the patient's mobility. Although heat is often recommended for arthritic patients, the mechanism of benefit is unknown (Scientific American, p. 7). Goroll suggests that diathermy may be an expensive alternative where simpler measures would suffice (p. 698).
Ultrasound	CPT: 97128	Therapeutic ultrasound warms affected joints. As with diathermy, Goroll (p. 698) suggests that less expensive methods for relieving pain and discomfort exist.
Hot or cold packs	CPT: 97010	Hot or cold packs represent the inexpensive alternative to ultrasound and diathermy. As mentioned above, the mechanism of benefit for heat or cold is unknown (Scientific American, p. 7).
Exercises	CPT: 97110-97114 97260-97261 97530-97531	Passive range-of-motion exercise can sometimes aid the maintenance of joint motion (Scientific American, p. 7). Active exercise may help preserve muscle strength (Scientific American, p. 7). Isometric exercises may also help (Scientific American, p. 7). The benefit from exercise will depend on the individual patient, hence the inclusion as a limited use item.

OSTEOARTHRITIS

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with osteoarthritis: 13988	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	11.4	35.8	34.6	18.2	10.9-11.9
General medical visits (last 6 months)	10.1	34.6	35.1	20.2	9.6-10.6
LIMITED USE CARE					
Physical therapy visits	96.0	2.0	0.7	1.4	95.6-96.3
Diathermy	90.9	9.1	0.0	0.0	90.4-91.3
Ultrasound	97.9	1.0	0.5	0.5	97.7-98.2
Hot or cold packs	98.7	0.4	0.3	0.6	98.5-98.8
Exercises	98.0	1.0	0.3	0.7	97.8-98.2

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Osteoarthritis	ICD9: 715.xx	Patients with severe arthritis may occasionally require hospitalization for the management of their arthritis or its complications (American College of Rheumatology, p. 12).
Hip replacement	CPT: 27130-27138 ICD9: 81.51-81.53 81.61-81.69	Patients with advanced hip disease may be candidates for hip replacement (Scientific American, p. 8; Harrison's, p. 1479).
Knee replacement	CPT: 27437-27447 ICD9: 81.41,81.54	Patients with advanced knee disease may be candidates for knee replacement (Scientific American, p. 8; Merck Manual of Geriatrics, p. 756).
Acute renal failure	ICD9: 584.xx 586.xx	Prolonged treatment with NSAIDs can lead to acute renal failure. Although drugs are not included in the claims data base, the sequelae are included. This component includes patients with a variety of etiologies (Scientific American, p. 7; Cassel, p. 191).
GI bleeding or ulcer	ICD9: 531.00-535.61 578.0-578.9	A common side effect of treatment with NSAIDs is GI bleeding or ulceration. Many patients with OA will be taking NSAIDs. This component includes patients with a variety of etiologies (Cassel, p. 191).

OSTEOARTHRITIS

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Osteoarthritis	179	188	1.28	12.20	16.91	1.10- 1.47
Hip replacement	80	84	0.57	25.71	5.81	0.45- 0.70
Knee replacement	121	126	0.87	25.45	11.28	0.71- 1.02
Acute renal failure	7	7	0.05	50.00	0.00	0.02- 0.09
GI bleeding or ulcer	40	42	0.29	25.00	5.70	0.20- 0.38

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Orthopedic surgeons	Self-assigned specialty	Patients with severe limitation of motion may require joint replacement by an orthopedic surgeon.
Other specialists	Self-assigned specialty	
Emergency Room	CPT: 90500-90580	Patients may visit the emergency room for reasons related or unrelated to OA. Sometimes, however, the patient uses the emergency room as the primary source of care.
X-rays: Foot	CPT: 73620,73630	Patients with osteoarthritis may require various joint x-rays to monitor the course of their disease (ABFP, Osteoarthritis Guide, p. 8).
Hip	CPT: 73500,73510 73520,73525 73526,73530	
Knee	CPT: 73560,73562 73564,73580 73581	
Spine	CPT: 72010,72020 72040,72050 72052,72072 72074,72080 72090,72100 72110,72114 72120	

OSTEOARTHRITIS

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	78796	60.20	13840	98.94[5]
Other general medicine physicians	14209	10.86	5375	38.43
Orthopedic surgeons	0	0.00	0	0.00
Other specialists	25504	19.49	7341	52.48
Emergency rooms	7348	5.61	3912	27.97
X-rays:				
Foot x-ray	1174	100.00	724	5.18
Hip x-ray	2405	100.00	1571	11.23
Knee x-ray	4188	100.00	2357	16.85
Spine x-ray	4041	100.00	2740	19.59

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[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

Chapter 8
The DEMPAQ Claims Review System: Results for Iowa

Physician practice profiling provides a claims-based instrument to gauge the quality and cost-effectiveness of medical care from a very broad perspective. Most physician profiles focus exclusively on cost or utilization comparisons to other peers in a health plan or region. Many times, when utilization based profiles are distributed to physicians without any formal process for provider feedback and education the reactions from physicians can be negative and counter-productive to a quality improvement initiative. As a result, the DEMPAQ researchers sought to develop profiles that would immediately convey a focus on quality by their appearance alone. To meet this goal two types of profiles were developed: the office practice profile and the condition-specific profile. A complete set of condition-specific profiles for family practice physicians in Iowa follows a brief introduction of the contents of the profile.

The Office Practice Profile

The office practice profile was developed to reinvent the concept of the utilization based physician profile. The office practice profile was individualized for all participating physicians in each of the three study states and is not included here. An example of an individual office practice profile was submitted with the Feedback and Education Modification to the Original DEMPAQ Contract in December 1993.

The Condition-specific Profile

The design of the condition-specific profile is a major departure from the more utilization-based profiles used by private insurers. The first step of creating a condition-specific profile is the identification of patient population with particular medical condition of interest. We chose to focus on six major medical conditions in Medicare beneficiaries:

- Diabetes;
- Hypertension;
- Ischemic Heart Disease;
- Congestive Heart Failure;
- COPD; and
- Osteoarthritis.

Patients with each of these conditions were assigned a primary care source (PCS) to act as a proxy for a physician "gatekeeper" in the medical population. A complete description of the PCS assignment algorithm is provided in Chapter 5. Each PCS's patient population claims history was summarized with a focus on the use of medical procedures strongly related to quality of care provided. In the example that follows, Table 1 describes the use of recommended and limited use procedures for a medical condition. For medical procedures where comorbidities could be important, extensions of Table 1 represented as tables 1B through 1D, are provided for each possible comorbidity. Table 2 describes the admission rates for inpatient procedures commonly associated with condition under consideration. Table 3 concludes the profile with a summary of the medical visit referral patterns of the PCS's patients to other specialists. It should be noted that no representation of cost or overall utilization of services were included in any condition-specific profiles. Also, we chose to provide only specialty-specific profiles since the individual physician sample sizes were too small to be statistically reliable.

DEMPAQ CLAIMS REVIEW SYSTEM (DCRS)

Reports from DEMPAQ Claims Review

Family Practice (08)

October 27, 1993

INTRODUCTION

The first profile report included here is for office practice. The Condition-Specific Profiles provide information on the ongoing monitoring of Medicare patients with six conditions:

- Diabetes
- Hypertension
- Congestive Heart Failure
- Ischemic Heart Disease
- Chronic Obstructive Pulmonary Disease
- Osteoarthritis

DATA INCLUDED

This report is based on all Medicare claims submitted from July 1, 1990 - June 30, 1991, for patients aged 65 years or older.

Patients' data are **included** only if they had an office or emergency room visit during the year with a physician within the specialties of internal medicine, family practice, or general practice in your state.

Patients' data are **excluded** if:

- All care was received in inpatient settings
- All visits were to specialist physicians
- All visits were to physicians out of the state
- Patient had nursing home care in two or more consecutive quarters.

OVERVIEW OF TABLES

- **Table 1** shows the percent of patients receiving each of a list of tests, visits, and procedures 0, 1-2, 3-5, or over 5 times per year. The services are divided into two sets:

  Recommended Care represents the minimal level of services that should be provided to a patient.

  Limited Use Care depends on the patient's condition and the physician's discretion. This category includes services recommended for a subset of the population with the condition, as well as procedures that should be provided sparingly for all patients with the condition.

- **Table 2** shows hospital admissions for selected complications and days from discharge to follow-up visits.

- **Table 3** shows the distribution of services provided by the assigned primary care physicians, other general medicine physicians, and selected other specialists. The assigned primary care physician is that primary care physician who provided more visits than any other primary care physician for each patient.

BACKGROUND INFORMATION

In the introduction to each condition, we provide information on:

- Procedure codes (CPT-4), diagnosis codes (ICD-9-CM), or other data sources used to identify tests, procedures, hospitalizations, or providers
- Notes about the tests, procedures, visits, or hospitalizations reported
- Abbreviations used in the report
- References

OFFICE PRACTICE

This section is designed to include specific information for individual physicians, and has been omitted in this particular book for reasons of confidentiality.

DEMPAQ CLAIMS REVIEW SYSTEM

DIABETES PROFILE
STATE OF IOWA

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not An Iowa Provider]
[PHYSICIAN ID: 08 TOTAL]

DIABETES PROFILE – INTRODUCTION

This profile presents data for patients with diabetes, defined by a single claim for a physician visit with the diagnosis code of 250.xx.

Significance

Diabetes mellitus, the most common endocrine disease, is a chronic disease that requires continuing medical care and education to prevent acute complications and reduce the risk of long-term complications. The prevalence of non-insulin-dependent diabetes mellitus increases with age

Abbreviations

ABFP = American Board of Family Practice
ADA = American Diabetes Association
DM = Diabetes mellitus
HDL = High-density lipoprotein
LDL = Low-density lipoprotein
Type I diabetes = insulin-dependent DM
Type II diabetes = non-insulin-dependent DM

References

Allerheiligen DA, Erwin DT, Galazka SS, Smith CW. Diabetes Mellitus Reference Guide, 3rd ed. American Board of Family Practice, 1990.

American Diabetes Association, Committee on Professional Practice. Standards of medical care for patients with diabetes mellitus. Diabetes Care 1989;12:365-8.

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Branch WT. Office Practice of Medicine, 2nd ed. Philadelphia: WB Saunders, 1987.

Cahill GF, Arky RA, Perlman AJ. Diabetes mellitus. Ch. VI. In: Scientific American Medicine. Section 9. Metabolism. New York: Scientific American, 1987.

Wilson JD, Braunwald E, Isselbacher KJ, et al. Harrison's Principles of Internal Medicine. New York: McGraw-Hill, 1991.

DIABETES

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home visit)	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	According to the ABFP, visits for diabetic patients in control should be scheduled every 3-6 months (ABFP, p. 36).
Hemoglobin A1C test	CPT: 83036	Since the hemoglobin A1C test gives a good indication of the level of glucose control, it is recommended every 2 to 3 months (ABFP, p. 37) or every 6 months (ADA, p. 367).
Urinalysis	CPT: 81000,81002 81005,81099 84180,84185 84190	Annual urinalysis is recommended to check for proteinuria (ABFP, p. 38; ADA, p. 367). Proteinuria is an early manifestation of diabetic nephropathy (Branch, p. 785). Note: If urinalysis is done in the physician's office, it may not be billed separately.
Triglycerides	CPT: 84478 80061-80062 80065 83705 83720	Triglycerides should be tested annually (ADA, p. 367). Hypertriglyceridemia is common in diabetics (Harrison's, p. 1756).
Total cholesterol	CPT: 82465,82470 83700-83720 80012-80019 80065 80050 80053 80060-80062	Total cholesterol should be tested annually (ADA, p. 367) because diabetics are prone to have arteriosclerosis and have an increased risk of myocardial infarction (Harrison's, p. 1733).
HDL cholesterol	CPT: 83718 80061-80062 80065	HDL cholesterol should be tested annually (ADA, p. 367). In diabetics the ratio of HDL to LDL is altered and the risk of arteriosclerotic disease is increased (Harrison's, p. 1753).
Ophthalmology visit	CPT: 92002-92019 92225-92260	A complete eye and visual examination should be performed annually (ADA, p. 367). This examination is important to detect early signs of retinopathy (Harrison's, p. 1753) or cataract (Branch, p. 784).
	90000-90080 90600-90699 90750,90760	These codes are acceptable if reported by an ophthalmologist. Optometry visits in an optical shop are probably not billed to Medicare.

Limited Use Care	Data Source	Notes
Blood glucose	CPT: 82947-82952 80006-80019	While many physicians use blood glucose to monitor patients with diabetes, guidelines from ABFP (p. 37) and ADA recommend hemoglobin A1C for diabetes monitoring. In some cases, blood glucose tests may be a valuable adjunct to the hemoglobin A1C test. The blood glucose test is listed in the limited use category because it is sometimes appropriate for patients taking insulin. However, Medicare data do not indicate which drugs are used by a patient and may not indicate whether diabetes is type I or type II. Home blood glucose monitoring is not captured by these data.

DIABETES

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice

Total number of primary patients with diabetes: 8355

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	9.8	39.8	33.1	17.3	9.2-10.5
General medical visits (last 6 months)	11.7	37.4	33.5	17.5	11.0-12.4
Hemoglobin A1C tests	82.1	15.6	2.2	0.1	81.3-82.9
Urinalysis	57.7	30.2	8.8	3.3	56.7-58.8
Triglycerides	81.8	15.4	2.3	0.5	81.0-82.6
Total cholesterol	52.2	29.7	13.2	4.9	51.1-53.3
HDL cholesterol	81.3	16.4	1.9	0.4	80.4-82.1
Ophthalmology visits	47.6	38.6	10.3	3.5	46.5-48.7
LIMITED USE CARE					
Blood Glucose	22.3	35.0	26.3	16.4	21.4-23.2

---

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

DIABETES

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Ketoacidosis	ICD9: 250.1	Ketoacidosis is an acute metabolic complication of diabetes (Harrison's, p. 1749).
Hyperosmolar coma	ICD9: 250.2	Hyperosmolar nonketotic hyperglycemia can cause coma in the diabetic (Harrison's, p. 2051-2).
Other coma	ICD9: 250.3	Hyperglycemia with ketoacidosis is one of several conditions that can cause coma in diabetic patients (Harrison's, p. 2051-2).
Hypoglycemic coma	ICD9: 251.0	Hypoglycemia is a common complication of diabetes and may lead to coma (ABFP, p. 25; Harrison's, p. 1747).
Lower-extremity amputation	CPT: 27590-27598 27880-27889 28800-28825	Since diabetics are prone to arteriosclerotic vascular disease and foot ulcers (Harrison's, p. 1753), failure to inspect the feet or to teach patients proper foot care may contribute to the need for lower-extremity amputation.

DIABETES

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Ketoacidosis	18	18	0.15	11.76	8.20	0.08- 0.22
Hyperosmolar coma	8	9	0.07	20.00	48.50	0.02- 0.11
Other coma	6	6	0.05	0.00	7.00	0.01- 0.09
Hypoglycemic coma	20	21	0.16	10.00	24.06	0.10- 0.24
Lower extremity amputation	64	74	0.53	21.82	26.84	0.40- 0.66

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Ophthalmologist or optometrist	Self-assigned specialty	Patients with diabetes need regular eye examinations with dilated pupils.
Podiatrist	Self-assigned specialty	Since foot problems are common in diabetics, these patients may require podiatric services.
Cardiologist	Self-assigned specialty	Since arteriosclerotic heart disease is a complication of diabetes, cardiologists are an important source of nonprimary care for these patients.
Other specialists	Self-assigned specialty	Patients with diabetes may require a specialist's care for conditions related or unrelated to diabetes.
Emergency room	CPT: 90500-90580	Patients with diabetes may seek emergency room treatment for sudden worsening of their condition. Use of the emergency room may indicate failure of control in the ambulatory care setting or failure of patient compliance with therapy.

DIABETES

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	49660	68.24	8347	99.90[5]
Other general medicine physicians	5664	7.78	2393	28.64
Ophthalmologists	1910	2.62	1113	13.32
Podiatrists	1343	1.85	633	7.58
Cardiologists	1800	2.47	802	9.60
Other specialists	10436	14.34	3552	42.51
Emergency rooms	1956	2.69	1342	16.06

[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

HYPERTENSION PROFILE
STATE OF IOWA

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not An Iowa Provider]
[PHYSICIAN ID: 08 TOTAL]

HYPERTENSION PROFILE – INTRODUCTION

This profile presents data for patients with hypertension, defined by a single claim for a physician visit with the diagnosis code of 401.00, 401.1, or 401.9 and without congestive heart failure.

Significance

Hypertension is a major cause of morbidity and mortality in the U.S. Adequate control of blood pressure can prevent many of the serious sequelae of hypertension.

Abbreviations

ABFP = American Board of Family Practice
ACE = Angiotensin-converting enzyme
AMI = Acute myocardial infarction
CHF = Congestive heart failure
CVA = Cerebrovascular accident
DM = Diabetes mellitus
IHD = Ischemic heart disease
TIA = Transient cerebral ischemic attack

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Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home visit)	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	The primary care visit for patients with hypertension is important for monitoring drug doses and side effects. For this profile, 2 visits per year are considered minimal care.

Limited Use Care	Data Source	Notes
Creatinine	CPT: 80012-80019 80060,80065 80073,82546 82565	A serum creatinine test should be part of the initial evaluation for a patient with hypertension (ABFP, p. 11). Increased serum creatinine levels indicate renal dysfunction, which may be a sequela of hypertension or its therapy (Harrison's, p. 1006, 1010-11, 1014).
Triglycerides	CPT: 80061-80062 80065,83705 83720,84478	Measurement of serum triglycerides is useful at initial evaluation (and later for some patients) because it aids assessment of other cardiovascular risk factors and gives guidance for therapy (ABFP, p. 11; Goroll, p. 100, 482).
Total cholesterol	CPT: 80012-80019 80050,80053 80060-80062 80065,82465, 82470 83700-83720	Discretionary monitoring of total cholesterol provides information on an additional risk factor and guidance for therapy (ABFP, p. 11).
Serum potassium	CPT: 80002-80019 80060,80062 80065,84132	Close monitoring of serum potassium is necessary for patients who are receiving diuretics or ACE inhibitors (Harrison's, p. 1010; DE, p. 488). A low serum potassium level may indicate primary aldosteronism (ABFP, p. 11).

HYPERTENSION

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension: 24564	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	13.0	47.9	28.2	10.9	12.6-13.4
General medical visits (last 6 months)	12.7	45.4	29.8	12.1	12.3-13.2
LIMITED USE CARE					
Creatinine	56.6	39.1	3.9	0.4	56.0-57.2
Triglycerides	80.4	16.9	2.2	0.5	79.9-80.9
Total cholesterol	52.0	31.2	12.8	4.0	51.4-52.7
Serum potassium	46.4	42.5	8.9	2.2	45.8-47.0

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1a. Process Measures: Distribution of Services – Age

Table 1a, on the facing page, shows the same information as Table 1 for patients age 65-79. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

HYPERTENSION AND AGE 65-79

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension and age 65-79: 20096	

Table 1A. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	13.4	48.2	27.8	10.6	12.9-13.8
General medical visits (last 6 months)	12.6	45.8	29.7	11.9	12.1-13.0
LIMITED USE CARE					
Creatinine	56.3	39.3	4.0	0.4	55.6-56.9
Triglycerides	79.4	17.6	2.4	0.6	78.8-80.0
Total cholesterol	51.2	31.1	13.3	4.4	50.5-51.9
Serum potassium	46.4	42.5	8.9	2.2	45.7-47.1

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1b. Process Measures: Distribution of Services -- Age

Table 1b, on the facing page, shows the same information as Table 1 for patients age 80+. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

HYPERTENSION AND AGE 80+

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension and age 80+: 4468	

Table 1B. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	11.3	46.6	29.9	12.2	10.4-12.2
General medical visits (last 6 months)	13.5	43.6	30.1	12.8	12.6-14.6
LIMITED USE CARE					
Creatinine	58.1	38.0	3.7	0.2	56.6-59.5
Triglycerides	84.9	13.8	1.1	0.2	83.8-85.9
Total cholesterol	55.8	31.7	10.6	1.9	54.3-57.3
Serum potassium	46.4	42.3	9.2	2.1	44.9-47.8

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1c. Process Measures: Distribution of Services – Two Conditions

Table 1c, on the facing page, shows the same information as Table 1 for patients with hypertension and ischemic heart disease. If you compare Tables 1 and 1c, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1c than on Table 1 because these measures relate to both conditions.

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension and IHD: 3588	

Table 1C. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	7.7	36.0	35.5	20.8	6.8- 8.6
General medical visits (last 6 months)	9.2	33.8	35.2	21.8	8.2-10.1
LIMITED USE CARE					
Creatinine	52.3	40.2	7.0	0.5	50.6-53.9
Triglycerides	74.1	20.2	4.5	1.1	72.7-75.5
Total cholesterol	44.8	30.4	16.8	8.0	43.2-46.5
Serum potassium	39.8	41.4	14.0	4.9	38.2-41.4
Coronary catheterization	99.1	0.9	0.0	0.0	98.7-99.4
ECG without exercise	53.6	38.6	6.9	0.8	51.9-55.2
Exercise stress test	82.8	16.4	0.7	0.1	81.5-84.0
Echocardiography	90.3	5.4	3.8	0.5	89.3-91.2
Radionuclide study without exercise	99.5	0.5	0.0	0.0	99.2-99.7
Radionuclide study with exercise	92.6	7.2	0.1	0.0	91.7-93.4

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Cerebrovascular accident	ICD9: 434,434.x, 436,437,437.0, 437.1,437.9	Patients with hypertension have an increased risk of stroke, which may be due to ischemia or intracerebral hemorrhage (Harrison's, p. 1978).
Transient cerebral ischemic attack	ICD9: 435-435.9	The cerebrovascular conditions that often accompany hypertension may lead to either TIA or CVA (Harrison's, p. 1977-8).
Acute myocardial infarction	ICD9: 410.xx-414.xx	Hypertension is a risk factor for both IHD and AMI (Merck, p. 337).
Hyperkalemia	ICD9: 276.7	Beta-blockers and ACE inhibitors (drugs often taken by patients with hypertension) increase the risk of hyperkalemia, particularly for patients with impaired renal function (Harrison's, p. 288; DE, p. 488).
Hypokalemia	ICD9: 276.8	The risk of hypokalemia is especially high for elderly patients being treated with both digitalis and a thiazide diuretic (ABFP, p. 24).
Congestive heart failure	ICD9: 402.01,402.11 402.91,428.xx	Hypertension predisposes the affected patient to CHF (Merck, p. 337).

HYPERTENSION

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Cerebrovascular Accident	385	454	1.61	14.51	21.26	1.45- 1.77
Trans. Cerebral Ischemic Attack	186	193	0.78	5.75	21.78	0.67- 0.89
Acute Myocardial Infarction	513	642	2.14	11.72	33.35	1.96- 2.33
Hyperkalemia	8	8	0.03	0.00	12.13	0.01- 0.06
Hypokalemia	22	22	0.09	9.52	15.26	0.05- 0.13
Congestive Heart Failure	65	79	0.27	12.16	11.25	0.20- 0.34

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physicians	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Cardiologist	Self-assigned specialty	Since heart disease is a common sequela of hypertension, cardiologists are an important source of nonprimary care for patients with hypertension.
Other specialists	Self-assigned specialty	Patterns of care-seeking by patients with hypertension may include use of specialists other than cardiologists.
Emergency Room	CPT: 90500-90580	Patients with hypertension may seek emergency room treatment for acute complications of hypertension.

HYPERTENSION

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	118673	68.43	24543	99.91[5]
Other general medicine physicians	13142	7.58	6141	25.00
Cardiologists	3601	2.08	1716	6.99
Other specialists	34264	19.76	11568	47.09
Emergency rooms	3734	2.15	2825	11.50

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[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

ISCHEMIC HEART DISEASE PROFILE
STATE OF IOWA

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not An Iowa Provider]
[PHYSICIAN ID: 08 TOTAL]

ISCHEMIC HEART DISEASE PROFILE – INTRODUCTION

This profile presents data for patients with ischemic heart disease, defined by a single claim with the diagnosis code of 410.xx-414.xx.

Significance

IHD has an overall prevalence among the U.S. elderly of about 14% and in 1988 accounted for nearly 2.4 million hospitalizations for persons over age 65 (NCHS, 1991). While medical and surgical treatments help some patients, the best therapy is risk-factor reduction and treatment of aggravating conditions (Goroll, p. 128).

Abbreviations

ABFP = American Board of Family Practice
ACP = American College of Physicians
AMI = Acute myocardial infarction
CABG = Coronary artery bypass graft
CAD = Coronary artery disease
CHF = Congestive heart failure
ECG = Electrocardiogram
HDL = High density lipoprotein cholesterol
IHD = Ischemic heart disease
NCHS = National Center for Health Statistics
PTCA = Percutaneous transluminal coronary angioplasty

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ISCHEMIC HEART DISEASE

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home) visit or visit with specialist, once in each half year.	CPT: 90000-90170 (90100-90170) 90600-90699 90750,90760	The regular follow-up of patients with ischemic heart disease is important to monitor for management of angina, infarction, cardiac failure, or arrhythmias. The ABFP recommends follow-up at 3- to 6-month intervals for patients with ischemic heart disease (ABFP, p. 37).

Limited Use Care	Data Source	Notes
Total cholesterol	CPT: 80012-80019 80050,80053 80060-80062 80065,82465 82470 83700-83720	Elevated serum cholesterol is a known risk factor for AMI (Goroll et al., p. 42). The ACP (Hayward et al., p. 769) and the ABFP (ABFP, p. 37) recommend frequent or appropriately timed cholesterol tests for patients with IHD.
HDL cholesterol	CPT: 80061-80062 80065,83718	Since risk of CAD is inversely correlated with HDL cholesterol level, periodic monitoring of HDL cholesterol is warranted for assessment of risk (Goroll, p. 97).
Coronary catheterization	CPT: 93547-93553	The extent of coronary disease, as revealed by coronary angiography is an important predictor of the risk of death from CAD. Coronary angiography is indicated for selected patients, including those with incapacitating angina who are already on a maximum medical program. (Scientific American, p. 8; ABFP, p. 12)
ECG without exercise	CPT: 93000-93014	The resting ECG is a standard tool in diagnosing ischemic heart disease (ABFP, p. 10). ST depression indicates ischemia.
Exercise stress test	CPT: 93015,93017 93018	In the absence of an ST-segment depression on a resting ECG, an exercise stress test can help in diagnosing ischemic heart disease in patients with chest pain (ABFP, p. 10) or silent ischemia.
Echocardiography	CPT: 93307-93350	A resting echocardiogram can identify myocardial involvement, provide a good measure of ventricular size and function, and help rule out other types of cardiac disease such as cardiomyopathy or valvular disease (ABFP, p. 12).
Radionuclide study without exercise	CPT: 78414-78445 78460,78464 78466-78474 78481,78484	A resting radionuclide study can be useful in distinguishing the etiology of cardiac disease (e.g., a poorly functioning left ventricle versus coronary disease). Multigated studies provide data about the size, contraction pattern, and ejection fraction of a resting heart (Scientific American, p. 6). Nuclear medicine studies tend to be more expensive than other studies, however, and physicians may wish to limit their use (ABFP, p. 12).
Radionuclide study with exercise	CPT: 78461,78465 78475-78479 78485,78486 78487,78489	A radionuclide study with exercise can demonstrate areas of ischemia by showing defects that reperfuse after rest. Information about wall motion abnormalities and ejection fraction contribute to the diagnosis of ischemia (Harrison's, p. 966). The caveat about the use of radionuclide studies also applies here.

ISCHEMIC HEART DISEASE

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with ischemic heart disease: 10668	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	10.9	38.1	32.5	18.5	10.3-11.5
General medical visits (last 6 months)	12.9	36.1	31.4	19.7	12.2-13.5
LIMITED USE CARE					
Total cholesterol	50.8	28.0	15.1	6.2	49.9-51.7
HDL cholesterol	77.0	19.4	3.2	0.4	76.2-77.8
Coronary catheterization	99.0	1.0	0.0	0.0	98.8-99.2
ECG without exercise	52.8	38.9	7.2	1.1	51.9-53.8
Exercise stress test	83.8	15.2	0.9	0.1	83.1-84.5
Echocardiography	89.8	5.8	3.8	0.5	89.2-90.4
Radionuclide study without exercise	99.3	0.7	0.0	0.0	99.1-99.4
Radionuclide study with exercise	93.7	6.3	0.1	0.0	93.2-94.1

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1a. Process Measures: Distribution of Services – Age

Table 1a, on the facing page, shows the same information as Table 1 for patients age 65-79. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice

Total number of primary patients with IHD and age 65-79: 8092

Table 1A. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	11.5	38.5	32.3	17.7	10.8-12.2
General medical visits (last 6 months).	12.8	36.3	32.0	18.9	12.1-13.5
LIMITED USE CARE					
Total cholesterol	48.9	27.9	16.1	7.1	47.8-49.9
HDL cholesterol	74.6	21.2	3.7	0.5	73.7-75.6
Coronary catheterization	98.7	1.3	0.0	0.0	98.4-98.9
ECG without exercise	52.3	39.5	7.1	1.1	51.2-53.4
Exercise stress test	79.9	18.8	1.2	0.1	79.0-80.8
Echocardiography	88.9	6.6	4.0	0.5	88.2-89.5
Radionuclide study without exercise	99.2	0.8	0.0	0.0	98.9-99.3
Radionuclide study with exercise	92.2	7.7	0.1	0.0	91.6-92.7

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1b. Process Measures: Distribution of Services – Age

Table 1b, on the facing page, shows the same information as Table 1 for patients age 80+. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice

Total number of primary patients with IHD and age 80+: 2576

Table 1B. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	9.0	37.0	33.1	20.9	7.9-10.1
General medical visits (last 6 months)	13.2	35.3	29.3	22.2	11.9-14.5
LIMITED USE CARE					
Total cholesterol	56.9	28.2	11.8	3.1	55.0-58.8
HDL cholesterol	84.6	13.7	1.6	0.2	83.1-85.9
Coronary catheterization	99.9	0.1	0.0	0.0	99.7- 100
ECG without exercise	54.5	36.9	7.4	1.2	52.6-56.4
Exercise stress test	96.0	3.8	0.2	0.0	95.2-96.7
Echocardiography	92.9	3.5	3.2	0.4	91.8-93.8
Radionuclide study without exercise	99.7	0.3	0.0	0.0	99.3-99.8
Radionuclide study with exercise	98.3	1.7	0.0	0.0	97.7-98.7

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1c. Process Measures: Distribution of Services -- Two Conditions

Table 1c, on the facing page, shows the same information as Table 1 for patients with hypertension and ischemic heart disease. If you compare Tables 1 and 1c, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1c than on Table 1 because these measures relate to both conditions.

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with hypertension and IHD: 3588	

Table 1C. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	7.7	36.0	35.5	20.8	6.8- 8.6
General medical visits (last 6 months)	9.2	33.8	35.2	21.8	8.2-10.1
LIMITED USE CARE					
Creatinine	52.3	40.2	7.0	0.5	50.6-53.9
Triglycerides	74.1	20.2	4.5	1.1	72.7-75.5
Total cholesterol	44.8	30.4	16.8	8.0	43.2-46.5
Serum potassium	39.8	41.4	14.0	4.9	38.2-41.4
Coronary catheterization	99.1	0.9	0.0	0.0	98.7-99.4
ECG without exercise	53.6	38.6	6.9	0.8	51.9-55.2
Exercise stress test	82.8	16.4	0.7	0.1	81.5-84.0
Echocardiography	90.3	5.4	3.8	0.5	89.3-91.2
Radionuclide study without exercise	99.5	0.5	0.0	0.0	99.2-99.7
Radionuclide study with exercise	92.6	7.2	0.1	0.0	91.7-93.4

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1d. Process Measures: Distribution of Services -- Two Conditions

Table 1d, on the facing page, shows the same information as Table 1 for patients with congestive heart failure and ischemic heart disease. If you compare Tables 1 and 1d, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1d than on Table 1 because these measures relate to both conditions.

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and IHD: 2517	

Table 1D. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.1	26.2	36.0	29.7	7.1- 9.2
General medical visits (last 6 months)	10.4	26.1	31.7	31.8	9.3-11.7
Serum potassium	34.5	36.8	19.4	9.4	32.6-36.3
LIMITED USE CARE					
Echocardiography	86.1	7.1	5.9	0.9	84.7-87.4
ECG	48.2	38.0	11.4	2.5	46.2-50.1
Chest x-ray	39.1	41.6	15.6	3.6	37.2-41.0
Contrast angiography	99.0	1.0	0.0	0.0	98.5-99.3
Excercise stress test	92.5	5.8	1.2	0.5	91.4-93.5
Total cholesterol	53.6	25.5	15.0	5.8	51.7-55.6
HDL cholesterol	82.5	14.9	2.3	0.3	80.9-83.9
Coronary catheterization	99.0	1.0	0.0	0.0	98.5-99.3
Exercise stress test	92.5	5.8	1.2	0.5	91.4-93.5
Radionuclide study without exercise	98.8	1.2	0.0	0.0	98.3-99.2
Radionuclide study with exercise	96.0	3.9	0.1	0.0	95.1-96.7

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Acute myocardial infarction	ICD9: 410.00-410.91	A myocardial infarction can result from ischemic heart disease.
Ventricular arrhythmia	ICD9: 427.1,427.41 427.42	Ventricular tachycardia and ventricular fibrillation may occur in patients with a myocardial infarction (Harrison's, p. 958).
Congestive heart failure	ICD9: 402.01,402.11 402.91 428.0-428.9 429.9	Left heart failure can result from a myocardial infarction (Harrison's, p. 960).

ISCHEMIC HEART DISEASE

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Acute Myocardial Infarction	495	562	4.11	11.54	26.71	3.76- 4.47
Ventricular arrhythmia	36	40	0.30	28.13	29.96	0.20- 0.40
Congestive Heart Failure	617	819	5.13	12.06	18.40	4.73- 5.52

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Cardiologists	Self-assigned specialty	Cardiology specialists represent an important source of nonprimary care for IHD patients.
Cardiac/thoracic surgeons	Self-assigned specialty	Patients requiring surgery will generally visit a cardiac or thoracic surgeon.
Other specialists	Self-assigned specialty	Patients with IHD may require a specialist's care for conditions related or unrelated to IHD.
Emergency Room	CPT: 90500-90580	Patients with IHD may seek emergency room treatment for sudden worsening of their condition. In addition, the primary care physician may refer them to the emergency room if a myocardial infarction is suspected.

ISCHEMIC HEART DISEASE

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	63618	63.02	10633	99.67[5]
Other general medicine physicians	8221	8.14	3489	32.71
Cardiologists	7219	7.15	3263	30.59
Cardiac/thoracic surgeons	175	0.17	106	0.99
Other specialists	15143	15.00	5076	47.58
Emergency rooms	3487	3.45	2351	22.04

[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

CONGESTIVE HEART FAILURE PROFILE
STATE OF IOWA

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not An Iowa Provider]
[PHYSICIAN ID: 08 TOTAL]

CONGESTIVE HEART FAILURE PROFILE – INTRODUCTION

This profile presents data for patients with congestive heart failure, defined by a single claim for a visit with the diagnosis code of 402.01, 402.11, 402.91, or 428.xx.

Significance

In the U.S., heart failure affects more than 2 million people and results in 900,000 hospitalizations yearly. Prevalence increases with age and is nearly 10% among persons >80 years of age. Since CHF is an end-stage disease, treatment has limited potential. Prevention, by modifying risk factors and correcting functional disturbances, is a more promising means of reducing morbidity and mortality (Kannel and Belanger, 1991).

Abbreviations

ABFP = American Board of Family Practice
AMI = Acute myocardial infarction
CHF = Congestive heart failure
COPD = Chronic obstructive pulmonary disease
ECG = Electrocardiogram
IHD = Ischemic heart disease

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CONGESTIVE HEART FAILURE

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home) visit or visit with cardiologist	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	The primary care visit for patients with CHF is important in monitoring drug doses, drug side effects, or symptoms of heart failure. Most primary care practitioners schedule office visits 2-4 months apart (Fleg et al., 1989). For this profile, 2 visits per year are considered minimal care
Potassium, serum	CPT: 80002-80019 80060,80062 80065,84132	Close monitoring of serum potassium is necessary for patients who are receiving diuretics, as most patients with CHF do (Cohn, 1989).

Limited Use Care	Data Source	Notes
Echocardiography	CPT: 93307-93350	Echocardiography (sonography) can provide accurate measurements of cardiac chambers, wall thickness, and valvular structures (ABFP, CHF Guide, p. 12). This technique should be limited to patients suspected of having cardiac valve disease,.
ECG	CPT: 93000-93014	While ECGs do not confirm the presence or absence of heart failure, they provide clues to the etiology of the failure (ABFP, CHF Guide, p. 11).
Chest x-ray	CPT: 71010-71035	The chest radiograph provides an indication of underlying cardiac abnormality and information regarding the status of the failure itself (ABFP, CHF Guide, p. 11). While useful, the chest x-ray is not a very sensitive screening test for heart failure (Branch, p. 129). The history and signs detected at physical exam are more important for monitoring and managing the patient with CHF.
Contrast angiography	CPT: 93546-93553	Injection of radiographic contrast agent into coronary arteries or left ventricle permits assessment of coronary artery stenosis or ventricular ejection fraction (Harrison's, p. 872-4). This technique is useful only for patients known or suspected to have IHD in addition to CHF.
Exercise stress test (ECG)	CPT: 93015-93018	Stress testing provides information about ventricular function and myocardial ischemia (Harrison's, p. 966). Exercise testing may help identify the cause of heart failure (ABFP, CHF Guide, p. 12). Exercise tolerance is an important tool to evaluate the efficacy of treatment (Cohn, 1988) and to identify a safe range for heart rate during exercise (Merck, p. 280-1). However, exercise testing is contraindicated for patients with unstable angina, probable AMI, severe aortic stenosis or hypertension, or uncontrolled arrhythmias (Branch, p. 57) or for those who are asymptomatic (Branch, p. 63).

CONGESTIVE HEART FAILURE

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice

Total number of primary patients with congestive heart failure: 6127

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	10.0	32.2	33.9	24.0	9.2-10.7
General medical visits (last 6 months)	12.5	31.2	31.4	25.0	11.7-13.3
Serum potassium	37.2	38.8	17.2	6.8	36.0-38.4
LIMITED USE CARE					
Echocardiography	89.4	5.7	4.3	0.7	88.6-90.1
ECG	57.6	34.4	6.7	1.3	56.3-58.8
Chest x-ray	44.7	40.4	12.5	2.4	43.5-45.9
Contrast angiography	99.5	0.5	0.0	0.0	99.3-99.7
Exercise stress test	96.2	3.6	0.2	0.0	95.7-96.6

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

TAble 1a. Process Measures: Distribution of Services – Age

Table 1a, on the facing page, shows the same information as Table 1 for patients age 65-79. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and age 65-79: 3897	

Table 1A. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	9.9	30.9	33.7	25.5	9.0-10.9
General medical visits (last 6 months)	11.9	30.1	32.5	25.6	10.9-12.9
Serum potassium	37.6	38.1	17.1	7.3	36.0-39.1
LIMITED USE CARE					
Echocardiography	87.4	6.9	4.9	0.8	86.3-88.4
ECG	55.9	35.5	7.0	1.6	54.4-57.5
Chest x-ray	43.1	41.0	13.0	2.9	41.5-44.6
Contrast angiography	99.3	0.7	0.0	0.0	99.0-99.5
Exercise stress test	94.6	5.1	0.3	0.0	93.8-95.3

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1b. Process Measures: Distribution of Services

Table 1b, on the facing page, shows the same information as Table 1 for patients age 80+. Again, the confidence limits give upper and lower limits for where the true percent lies. If you compare Tables 1a and 1b, and the confidence intervals for percent of patients with zero services do not overlap, then the patients age 65-79 and age 80+ are significantly different.

CHF AND AGE 80+

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and age 80+: 2230	

Table 1B. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	10.0	34.4	34.2	21.3	8.8-11.3
General medical visits (last 6 months)	13.5	33.0	29.6	23.9	12.1-15.0
Serum potassium	36.6	40.0	17.5	5.9	34.6-38.6
LIMITED USE CARE					
Echocardiography	92.9	3.5	3.2	0.4	91.8-93.9
ECG	60.4	32.5	6.2	0.9	58.3-62.4
Chest x-ray	47.5	39.3	11.5	1.6	45.4-49.6
Contrast angiography	99.9	0.1	0.0	0.0	99.7- 100
Exercise stress test	99.0	1.0	0.0	0.0	98.5-99.3

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1c. Process Measures: Distribution of Services – Two Conditions

Table 1c, on the facing page, shows the same information as Table 1 for patients with hypertension and ischemic heart disease. If you compare Tables 1 and 1c, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1c than on Table 1 because these measures relate to both conditions.

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and COPD: 1206	

Table 1C. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.0	23.8	34.4	33.7	6.6- 9.6
General medical visits (last 6 months)	10.2	25.1	32.0	32.7	8.5-12.0
Serum potassium	33.7	35.6	20.8	9.9	31.1-36.4
LIMITED USE CARE					
Echocardiography	90.4	4.9	4.3	0.4	88.6-91.9
ECG	52.0	38.1	8.1	1.7	49.1-54.8
Chest x-ray	30.4	43.4	21.1	5.1	27.8-33.0
Contrast angiography	99.7	0.3	0.0	0.0	99.2-99.9
Excercise stress test	96.9	2.9	0.2	0.0	95.8-97.8
Blood gases	91.5	7.3	1.2	0.1	89.7-92.9
Home oxygen therapy	85.0	3.4	1.7	9.9	82.8-86.9
Spirometry	84.1	13.9	1.7	0.3	81.9-86.0

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1d. Process Measures: Distribution of Services

Table 1d, on the facing page, shows the same information as Table 1 for patients with hypertension and ischemic heart disease. If you compare Tables 1 and 1d, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1d than on Table 1 because these measures relate to both conditions

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and IHD: 2517	

Table 1D. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.1	26.2	36.0	29.7	7.1- 9.2
General medical visits (last 6 months)	10.4	26.1	31.7	31.8	9.3-11.7
Serum potassium	34.5	36.8	19.4	9.4	32.6-36.3
LIMITED USE CARE					
Echocardiography	86.1	7.1	5.9	0.9	84.7-87.4
ECG	48.2	38.0	11.4	2.5	46.2-50.1
Chest x-ray	39.1	41.6	15.6	3.6	37.2-41.0
Contrast angiography	99.0	1.0	0.0	0.0	98.5-99.3
Excercise stress test	92.5	5.8	1.2	0.5	91.4-93.5
Total cholesterol	53.6	25.5	15.0	5.8	51.7-55.6
HDL cholesterol	82.5	14.9	2.3	0.3	80.9-83.9
Coronary catheterization	99.0	1.0	0.0	0.0	98.5-99.3
Exercise stress test	92.5	5.8	1.2	0.5	91.4-93.5
Radionuclide study without exercise	98.8	1.2	0.0	0.0	98.3-99.2
Radionuclide study with exercise	96.0	3.9	0.1	0.0	95.1-96.7

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Congestive heart failure	ICD9: 402.01,402.11 402.91 428.0-428.9 429.9	Hospitalization for CHF is often due to poor patient adherence to dietary and medical regimes, inadequate physician responses to early signs of CHF decompensation, or both.
Arrhythmias	ICD9: 427.0-427.9	Arrhythmia is both a cause and a complication of heart failure (Harrison's, p. 891; Cohn, 1988).
Pulmonary embolism	ICD9: 415.1	Low cardiac output, sometimes present in CHF, increases the risk of pulmonary emboli (Harrison's, p. 890).
Volume depletion	ICD9: 276.5	Overtreatment of the CHF patient with diuretics may lead to hypovolemia (Harrison's, p. 895), and hospitalization may be necessary to restore fluid and electrolyte balance.

CONGESTIVE HEART FAILURE

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Congestive Heart Failure	1143	1459	13.65	13.46	19.12	12.91-14.3
Arrhythmias	372	434	4.44	11.23	21.61	4.01- 4.89
Pulmonary embolism	18	19	0.21	6.25	22.47	0.12- 0.32
Volume depletion	152	167	1.81	25.00	22.42	1.53- 2.11

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Cardiologist	Self-assigned specialty	Cardiology specialists represent an important source of nonprimary care for patients with CHF.
Other specialists	Self-assigned specialty	Patients with CHF may require a specialist's care for conditions related or unrelated to CHF.
Emergency Room	CPT: 90500-90580	Patients with CHF may seek emergency room treatment for sudden worsening of their condition. Use of the emergency room may indicate failure of control in the ambulatory care setting or failure of patient compliance with therapy.

CONGESTIVE HEART FAILURE

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	42358	67.35	6111	99.74[5]
Other general medicine physicians	5439	8.65	2200	35.91
Cardiologists	2879	4.58	1113	18.17
Other specialists	9742	15.49	3126	51.02
Emergency rooms	2476	3.94	1555	25.38

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[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

COPD PROFILE
STATE OF IOWA

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not An Iowa Provider]
[PHYSICIAN ID: 08 TOTAL]

This profile presents data for patients with chronic obstructive pulmonary disease, defined by a single claim for a visit, with the diagnosis code of 491, 491.0-491.9, 492, 492.0, 492.8, or 496.

Significance

COPD (emphysema or bronchitis) affects nearly 10% of the U.S. population over 65 years of age and accounts for about 147,000 hospitalizations annually for that age group. Since COPD is incurable, the goal of management is preservation of function and avoidance of complications (NCHS; Goroll, p. 214).

Abbreviations

ABFP = American Board of Family Practice
CHF = Congestive heart failure
COPD = Chronic obstructive pulmonary disease
NCHS = National Center for Health Statistics

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CHRONIC OBSTRUCTIVE PULMONARY DISEASE PROFILE

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home) visit	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	The primary care visit is important in monitoring the course of a progressive disease. A minimum of 3 visits per year is recommended by the ABFP (COPD Guide, p. 35). For this profile, 2 visits per year are considered minimal care.

Limited Use Care	Data Source	Notes
Spirometry	CPT: 94010-94200	Spirometry provides a measure of a patient's vital capacity and lung functioning. The ABFP COPD Guide (p. 35) recommends that spirometry be performed at every routine visit. Spirometry has been placed in the limited use column to reflect that patients with mild disease may not require frequent or even yearly spirometry.
Chest x-ray	CPT: 71010-71035	A chest x-ray is important in patients with exacerbations of disease to check for pneumonia. Chest x-rays can also assist in making a diagnosis of CHF for patients with COPD. Chest x-rays also can provide information about hyperinflation and changes in vascular markings (Scientific American, Chronic Obstructive Disease of the Lung, p. 11). The ABFP COPD Guide (p. 35) suggests that yearly chest x-rays may be warranted by the patient's clinical condition.
Home oxygen therapy	CPT: E0410,E0416, E0425,E0430, E1400,Q0043, Q0046	Patients with severe COPD (pO_2 <60mm Hg) may benefit from home O_2 therapy (Goroll, p. 218), but the need should be documented. Physicians with a higher proportion of patients on home oxygen therapy than the statewide average may have a patient population that is more severely ill.
Blood gases	CPT: 82790-82817 94700-94715	Blood gases are important to measure oxygenation of the blood and CO_2 retention, factors which may affect the treatment plan. Yearly measurement of blood gases is recommended by the ABFP (COPD Guide, p. 35). Blood gases have been placed in the limited use column to reflect the fact that patients with mild disease may not need a yearly blood gas determination. (Note: Blood gas measurements done in hospital are excluded.)

COPD

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with copd: 5379	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	12.0	36.6	31.5	19.9	11.1-12.8
General medical visits (last 6 months)	12.1	33.1	32.6	22.2	11.2-13.0
LIMITED USE CARE					
Spirometry	82.9	15.2	1.5	0.4	81.9-83.9
Chest x-ray	39.5	45.6	12.5	2.5	38.2-40.8
Home oxygen therapy	91.5	1.7	1.3	5.6	90.7-92.2
Blood gases	94.9	4.6	0.5	0.0	94.3-95.5

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 1c. Process Measures: Distribution of Services -- Two Conditions

Table 1c, on the facing page, shows the same information as Table 1 for patients with congestive heart failure and chronic obstructive pulmonary disease. If you compare Tables 1 and 1c, and the confidence intervals for percent of patients with zero services do not overlap, then the patients who have two conditions are significantly different from patients with a single condition.

Please note that there are more services listed on Table 1c than on Table 1 because these measures relate to both conditions.

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with CHF and COPD: 1206	

Table 1C. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	8.0	23.8	34.4	33.7	6.6- 9.6
General medical visits (last 6 months)	10.2	25.1	32.0	32.7	8.5-12.0
Serum potassium	33.7	35.6	20.8	9.9	31.1-36.4
LIMITED USE CARE					
Echocardiography	90.4	4.9	4.3	0.4	88.6-91.9
ECG	52.0	38.1	8.1	1.7	49.1-54.8
Chest x-ray	30.4	43.4	21.1	5.1	27.8-33.0
Contrast angiography	99.7	0.3	0.0	0.0	99.2-99.9
Excercise stress test	96.9	2.9	0.2	0.0	95.8-97.8
Blood gases	91.5	7.3	1.2	0.1	89.7-92.9
Home oxygen therapy	85.0	3.4	1.7	9.9	82.8-86.9
Spirometry	84.1	13.9	1.7	0.3	81.9-86.0

*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Pneumonia	ICD9: 480.0–486	Pneumonia due to viruses or bacteria may exacerbate bronchitis in patients with COPD (Merck Manual of Geriatrics, p. 447).
Acute bronchitis	ICD9: 466.0,490 491.21	An acute attack of bronchitis in an elderly person with COPD is usually due to viral infection (Cassel et al., p. 371).
Influenza	ICD9: 487.0–487.8	Viral infections (e.g., influenza) may lead to exacerbation of bronchitis in patients with COPD (Merck Manual of Geriatrics, p. 447).
Congestive heart failure	ICD9: 402.01,402.11 402.91 428.0–428.9 429.9	Heart failure is a common form of cardiac decompensation in elderly patients with COPD (Merck Manual of Geriatrics, p. 451).

COPD

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Pneumonia	531	617	6.93	14.12	19.32	6.37- 7.50
Acute bronchitis	271	315	3.54	9.86	16.09	3.13- 3.96
Influenza	9	9	0.12	0.00	11.50	0.05- 0.20
CHF	354	473	4.62	13.16	21.59	4.16- 5.10

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use	Data Source	Notes
Assigned primary physician	Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians	Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Pulmonary specialist	Self-assigned specialty	Pulmonary specialists represent an important source of nonprimary care for COPD patients.
Cardiologist	Self-assigned specialty	Since CHF is often found with COPD, a patient with lung disease may seek care from a cardiologist.
Other specialists	Self-assigned specialty	Patterns of care-seeking by COPD patients may include use of specialists other than pulmonary and cardiac specialists.
Emergency Room	CPT: 90500-90580	Patients with COPD may seek emergency room treatment for acute exacerbations of their pulmonary disease.

COPD

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	33153	64.39	5369	99.81[5]
Other general medicine physicians	4667	9.06	1885	35.04
Pulmonry specialists	1423	2.76	517	9.61
Cardiologists	1311	2.55	577	10.73
Other specialists	8873	17.23	2634	48.97
Emergency rooms	2090	4.06	1329	24.71

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[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

DEMPAQ CLAIMS REVIEW SYSTEM

OSTEOARTHRITIS PROFILE
STATE OF IOWA

July 1, 1990 - June 30, 1991

[PHYSICIAN NAME: Not An Iowa Provider]
[PHYSICIAN ID: 08 TOTAL]

OSTEOARTHRITIS PROFILE -- INTRODUCTION

This profile presents data for patients with osteoarthritis, defined by a single claim for a visit with the diagnosis code of 715.xx.

Significance

A result of aging, OA is the leading cause of disability in the elderly and each year accounts for over 400,000 hospitalizations among that age group in the U.S. Therapeutic goals are pain relief, prevention of further joint damage, and maintenance of functional independence (Goroll, p. 696; NCHS).

Abbreviations

ABFP = American Board of Family Practice
GI = Gastrointestinal
NCHS = National Center for Health Statistics
NSAIDs = Nonsteroidal antiinflammatory drugs
OA = Osteoarthritis
PT = Physical therapy

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OSTEOARTHRITIS

Table 1: Process Measures: Distribution of Services

Table 1, on the facing page, shows the percent of patients receiving 0, 1-2, 3-5, and over 5 services during the year. The last column shows the 95% confidence interval around the percent of patients with 0 services.

Recommended Care	Data Source	Notes
Primary care office (home) visit	CPT: 90000-90080 (90100-90170) 90600-90699 90750,90760	The primary care visit is important in monitoring the course of a progressive disease. The American College of Rheumatology (p. 12) suggests a minimum of an annual visit to a primary care physician. Any patient who appears in this profile meets this minimum requirement.

Limited Use Care	Data Source	Notes
Physical therapy visits	CPT: 97110-97799 97145	Physical therapy can play an important role in aiding an individual with osteoarthritis to maintain or improve flexibility and mobility. Cassell (p. 190) suggests that physical therapy visits are an important part of a total therapeutic plan for arthritis. Physical therapy is listed as a limited use item because not all patients will require the specialized services offered by PT.
Diathermy	CPT: 97024	Diathermy generates heat aimed at specific joints, thereby relieving the discomfort of arthritis and improving the patient's mobility. Although heat is often recommended for arthritic patients, the mechanism of benefit is unknown (Scientific American, p. 7). Goroll suggests that diathermy may be an expensive alternative where simpler measures would suffice (p. 698).
Ultrasound	CPT: 97128	Therapeutic ultrasound warms affected joints. As with diathermy, Goroll (p. 698) suggests that less expensive methods for relieving pain and discomfort exist.
Hot or cold packs	CPT: 97010	Hot or cold packs represent the inexpensive alternative to ultrasound and diathermy. As mentioned above, the mechanism of benefit for heat or cold is unknown (Scientific American, p. 7).
Exercises	CPT: 97110-97114 97260-97261 97530-97531	Passive range-of-motion exercise can sometimes aid the maintenance of joint motion (Scientific American, p. 7). Active exercise may help preserve muscle strength (Scientific American, p. 7). Isometric exercises may also help (Scientific American, p. 7). The benefit from exercise will depend on the individual patient, hence the inclusion as a limited use item.

OSTEOARTHRITIS

PROVIDER ID: 08 TOTAL

PROVIDER ID	Specialty Total
SPECIALTY	Family Practice
Total number of primary patients with osteoarthritis: 9805	

Table 1. Process Measures: Distribution of Services

	% of Pts. Receiving This # Services During Year				Conf Int % with 0*
RECOMMENDED CARE	0	1-2	3-5	>5	
General medical visits (first 6 months)	11.7	41.5	31.0	15.7	11.1-12.4
General medical visits (last 6 months)	12.7	39.2	31.1	17.0	12.0-13.4
LIMITED USE CARE					
Physical therapy visits	92.1	3.5	1.9	2.5	91.5-92.6
Diathermy	89.0	11.0	0.0	0.0	88.3-89.6
Ultrasound	96.0	1.8	1.2	1.1	95.6-96.3
Hot or cold packs	98.3	0.8	0.5	0.4	98.0-98.5
Exercises	95.9	2.2	0.9	1.0	95.5-96.3

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*These numbers reflect the 95% confidence interval around the percent of patients who had no services. The upper and lower limits are likely to contain the true percent, and the limits will be narrower if the data sample contains many patients. Percents from specialty groups will not necessarily fall into the confidence intervals. However, the confidence interval around the specialty group percent should overlap the statewide interval.

Table 2: Hospital Admissions for Treatment of Selected Complications

Table 2, on the facing page, shows the number of patients admitted for selected complications, number of admissions (equal to or greater than number of patients), percent admitted, percent discharged who did not have a follow-up visit, and average days from discharge to the first follow-up visit or readmission. Because the complications have potential important impact, follow-up should be fairly prompt. High admission rates may reflect patients with more severe disease or may reflect inadequate ambulatory management.

The last column shows the 95% confidence level for the percent of patients admitted. When comparing two groups of physicians, if the confidence limits do not overlap, then the two groups are different.

Selected Complications	Data Source	Notes
Osteoarthritis	ICD9: 715.xx	Patients with severe arthritis may occasionally require hospitalization for the management of their arthritis or its complications (American College of Rheumatology, p. 12).
Hip replacement	CPT: 27130-27138 ICD9: 81.51-81.53 81.61-81.69	Patients with advanced hip disease may be candidates for hip replacement (Scientific American, p. 8; Harrison's, p. 1479).
Knee replacement	CPT: 27437-27447 ICD9: 81.41,81.54	Patients with advanced knee disease may be candidates for knee replacement (Scientific American, p. 8; Merck Manual of Geriatrics, p. 756).
Acute renal failure	ICD9: 584.xx 586.xx	Prolonged treatment with NSAIDs can lead to acute renal failure. Although drugs are not included in the claims data base, the sequelae are included. This component includes patients with a variety of etiologies (Scientific American, p. 7; Cassel, p. 191).
GI bleeding or ulcer	ICD9: 531.00-535.61 578.0-578.9	A common side effect of treatment with NSAIDs is GI bleeding or ulceration. Many patients with OA will be taking NSAIDs. This component includes patients with a variety of etiologies (Cassel, p. 191).

OSTEOARTHRITIS

PROVIDER ID: 08 TOTAL

Table 2. Hospital Admission for Treatment of Selected Complications

Condition	Patients Admitted[1]	Number of Admissions	Percent Admitted	% dischrgs no visit[2]	Avg days until visit[3]	Conf Int % admitd[4]
Osteoarthritis	179	188	1.28	12.20	16.91	1.10- 1.47
Hip replacement	80	84	0.57	25.71	5.81	0.45- 0.70
Knee replacement	121	126	0.87	25.45	11.28	0.71- 1.02
Acute renal failure	7	7	0.05	50.00	0.00	0.02- 0.09
GI bleeding or ulcer	40	42	0.29	25.00	5.70	0.20- 0.38

[1] If patients have more than one hospitalized complication, they are included in each category.

[2] Some patients were discharged to home (i.e., did not die in the hospital or enter a skilled nursing facility) but had no follow-up ambulatory visits. There are many possible explanations:

- Patient was discharged near the end of the study period so no follow-up dates
- Patient died shortly after discharge
- No follow-up visit occurred
- Patient was re-admitted

[3] For only those patients who had a follow-up visit, the average number of days after discharge until the visit is presented.

[4] These numbers reflect the 95% confidence interval for the percent of patients admitted.

Table 3: Encounter Utilization Measures

The left two columns of data on Table 3 on the facing page show the number and percent of services provided by the assigned primary physician, other general medicine physicians, specialists, and emergency rooms (see below).

The right two columns of Table 3 show the number and percent of patients. These percents do not sum to 100% because many patients see physicians in more than one category.

Specialists and Emergency Room Use		Data Source	Notes
Assigned primary physician		Self-assigned specialty	The general medicine physician who provided more visits than any other general medicine physician.
Other general medicine physicians		Self-assigned specialty	Internal medicine, family practice, and general practice physicians.
Orthopedic surgeons		Self-assigned specialty	Patients with severe limitation of motion may require joint replacement by an orthopedic surgeon.
Other specialists		Self-assigned specialty	
Emergency Room		CPT: 90500-90580	Patients may visit the emergency room for reasons related or unrelated to OA. Sometimes, however, the patient uses the emergency room as the primary source of care.
X-rays:	Foot	CPT: 73620,73630	Patients with osteoarthritis may require various joint x-rays to monitor the course of their disease (ABFP, Osteoarthritis Guide, p. 8).
	Hip	CPT: 73500,73510 73520,73525 73526,73530	
	Knee	CPT: 73560,73562 73564,73580 73581	
	Spine	CPT: 72010,72020 72040,72050 72052,72072 72074,72080 72090,72100 72110,72114 72120	

OSTEOARTHRITIS

PROVIDER ID: 08 TOTAL

Table 3. Encounter Utilization Measures

Service	Number of Services	Percent of Services	Number of Patients	Percent of Patients
Visits to:				
Assigned primary physician	54002	62.73	9796	99.91[5]
Other general medicine physicians	7987	9.28	3364	34.31
Orthopedic surgeons	0	0.00	0	0.00
Other specialists	17270	20.06	5646	57.58
Emergency rooms	2042	2.37	1434	14.63
X-rays:				
Foot x-ray	685	100.00	452	4.61
Hip x-ray	2069	100.00	1311	13.37
Knee x-ray	4419	100.00	2406	24.54
Spine x-ray	2924	100.00	2024	20.64

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[5] This number does not equal 100% of patients assigned to a primary physician, because some primary patients were seen in the emergency room only.

Chapter 16
The DEMPAQ Record Review System: Results for Maryland

The report which follows shows one format for feeding information back to physicians. We fashioned the report to give physicians information unique to his or her practice and to present comparative summary data for physicians in the participant's peer specialty. The book was designed to help physicians answer several basic questions about his or her practice:

- How do I manage the most prevalent diagnoses, tests, and drugs encountered in the over-65 population?
- For which clinical activities do my practices differ from those of my colleagues?
- Are patients with vital preventive and follow-up care needs "slipping through the cracks?"
- Is my record documentation adequate to ensure continuity of care for my patients and to support risk management considerations?

This book includes four different types of reports, as listed below. The book starts with the specific (clinical item) and moves to the summaries (indicator and function). Each report is formatted similarly: tables on right hand page and on the facing, or left hand page, text describing the table. Below the text on some of the left hand pages is a figure displaying statewide data. Some reports (the Function Summary, Indicator Summary and Record Documentation Summary) contain graphic displays of group performance data on the left hand page.

I. **Clinical Item Report**—44 tables, one for each clinical item, showing:
  - criteria used to evaluate performance for each clinical item;
  - physician's average performance rates for each criterion; and
  - peer group (specialty) performance data.

II. **Indicator Summary**—six tables, one for each function, showing:
  - a physician's average performance rates for each indicator for that function;
  - peer group (specialty) performance data; and
  - a measure comparing the individual's performance to that of his or her peer group.

III. **Function Summary** —one table showing:
  - a physician's average performance rates for each function;
  - peer group (specialty) performance data; and
  - a measure comparing the individual's performance to that of his or her peer group.

IV. **Record Documentation Summary** —one table showing:
  - a physician's average performance on six measures of documentation;
  - peer group (specialty) performance data; and
  - a measure comparing the individual's performance to that of his or her peer group.

Reports from
DEMPAQ
Medical Record Review

June 30, 1993

TABLE OF CONTENTS

- I. Introduction
  - Structure of DEMPAQ Review
  - How the Data Were Collected and Scored
  - Types of Reports in This Book
  - Glossary of Frequently Used Terms

- II. Clinical Item Reports

- III. Indicator Summary Report

- IV. Function Summary Report

- V. Record Documentation Report

APPENDIX A. DEMPAQ Clinical Items

APPENDIX B. DEMPAQ Functions and Indicators

PREFACE

The tables in this book are unique to your practice. They have been produced from the data abstracted from the medical records you submitted for the DEMPAQ project.

The tables in this book also show a summary of the data for physicians in your specialty. With these data, you can compare your performance with that of your peers.

The tables presented on the following pages display performance data in several different ways to help you answer questions about your Medicare-aged patients such as:

- **How do I manage the most prevalent diagnoses, tests, and drugs encountered in the over-65 population?**

- **For which clinical activities do my practices differ from those of my colleagues?**

- **Are patients with important preventive and follow-up care needs "slipping through the cracks?"**

- **Is my record documentation adequate to ensure continuity of care for my patients and to support risk management considerations?**

GOALS OF THE DEMPAQ PROJECT

The DEMPAQ project is a three year cooperative demonstration project funded by the Health Care Financing Administration to enhance the quality of care given to Medicare beneficiaries in physician offices. The project was implemented in three states: Maryland, Alabama, and Iowa. The goals of the project include:

- Developing tools to assess the quality of ambulatory care;
- Using the tools to identify possible areas for improvement;
- Evaluating the reliability, validity, and usefulness of the tools; and
- Devising and testing methods to feedback information about performance to practicing physicians.

This book presents the results of a review of the medical records you submitted in the fall of 1991. The review covered a two year window:

July 1, 1989 through June 30, 1991

STRUCTURE OF THE DEMPAQ REVIEW

The DEMPAQ record review takes an in-depth look at patterns of care given to elderly Medicare patients in physicians' offices. The framework of the record review system follows.

Functions

FUNCTIONS are clinical activities that are commonly performed in the course of an office visit. In this report, we review the following functions:

- Making a DIAGNOSIS
- Prescribing and monitoring a DRUG
- Responding to an abnormal TEST
- Ordering or performing a PROCEDURE
- Performing PREVENTIVE or SCREENING services
- FOLLOW-UP of serious health threats
- DOCUMENTING in the medical record.

Clinical Items

A CLINICAL ITEM is a specific drug (e.g. ACE inhibitor), diagnosis (e.g. diabetes mellitus), test or procedure. The drugs we selected to review for the Drug function are commonly prescribed for the elderly population. Likewise, the diagnoses we selected for the Diagnosis function represent prevalent conditions among the elderly and account for significant morbidity. Appendix A displays the clinical items reviewed.

Indicators (Rates of performance of specific actions)

INDICATORS, (also known as performance rates) measure key actions associated with a function. For example, the indicators we selected for the Diagnosis function include:

- Monitoring a pre-existing diagnosis
- Making a new diagnosis
- Searching for treatable causes or co-morbidities of a diagnosis.

These actions represent important aspects of the clinical processes that lead to patient outcomes. For each action, we measure the rate at which it is performed for relevant patients. The DEMPAQ indicators are shown in Appendix B.

Criteria

Unique review criteria have been developed for each clinical item/indicator combination (see figure one). The criteria express the specific clinical details which represent appropriate performance of an indicator. Of course, the actions which represent appropriate monitoring for a pre-existing diagnosis of diabetes differ from the appropriate monitoring actions for ischemic heart disease (see figure two).

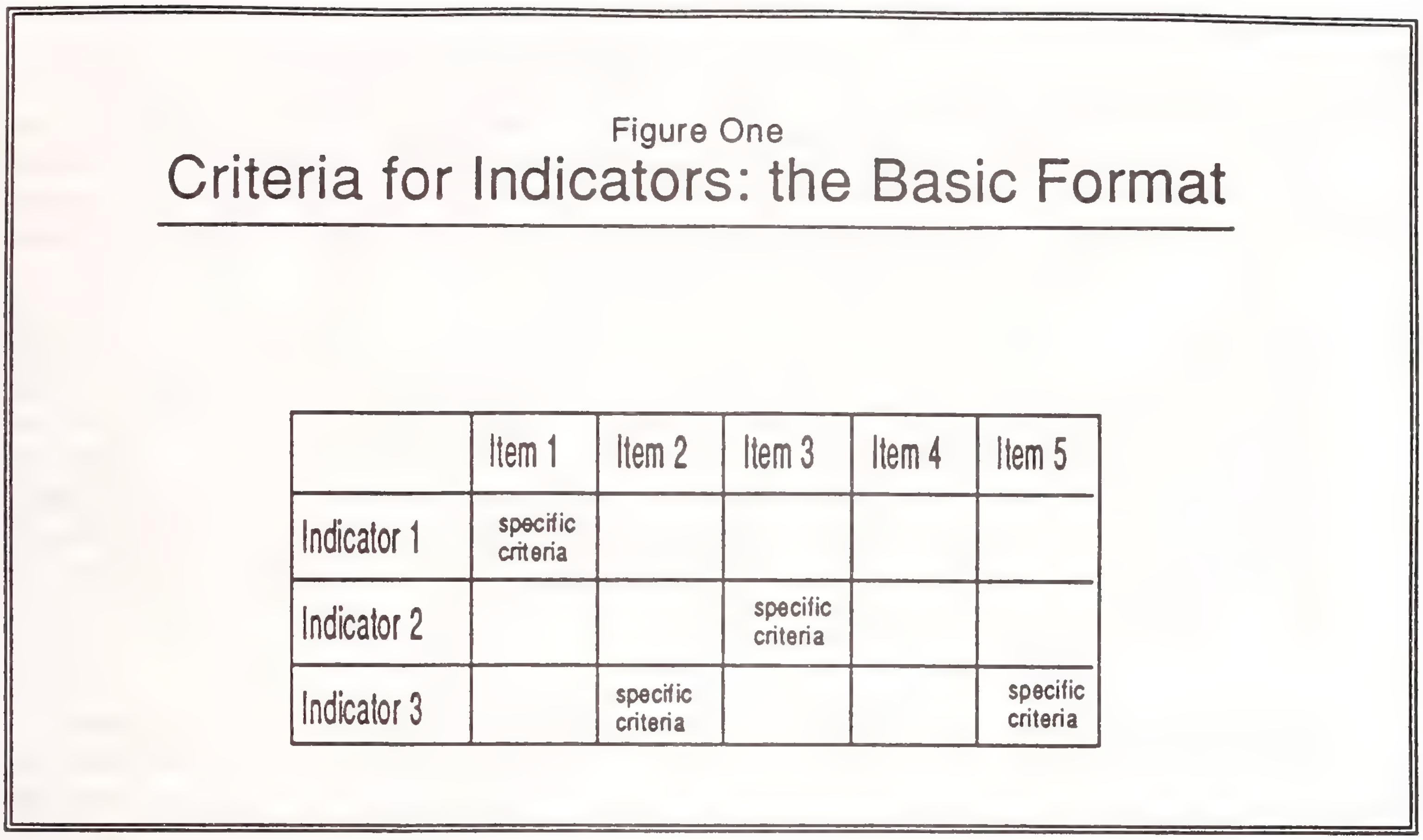

Figure One

Criteria for Indicators: the Basic Format

	Item 1	Item 2	Item 3	Item 4	Item 5
Indicator 1	specific criteria				
Indicator 2			specific criteria		
Indicator 3		specific criteria			specific criteria

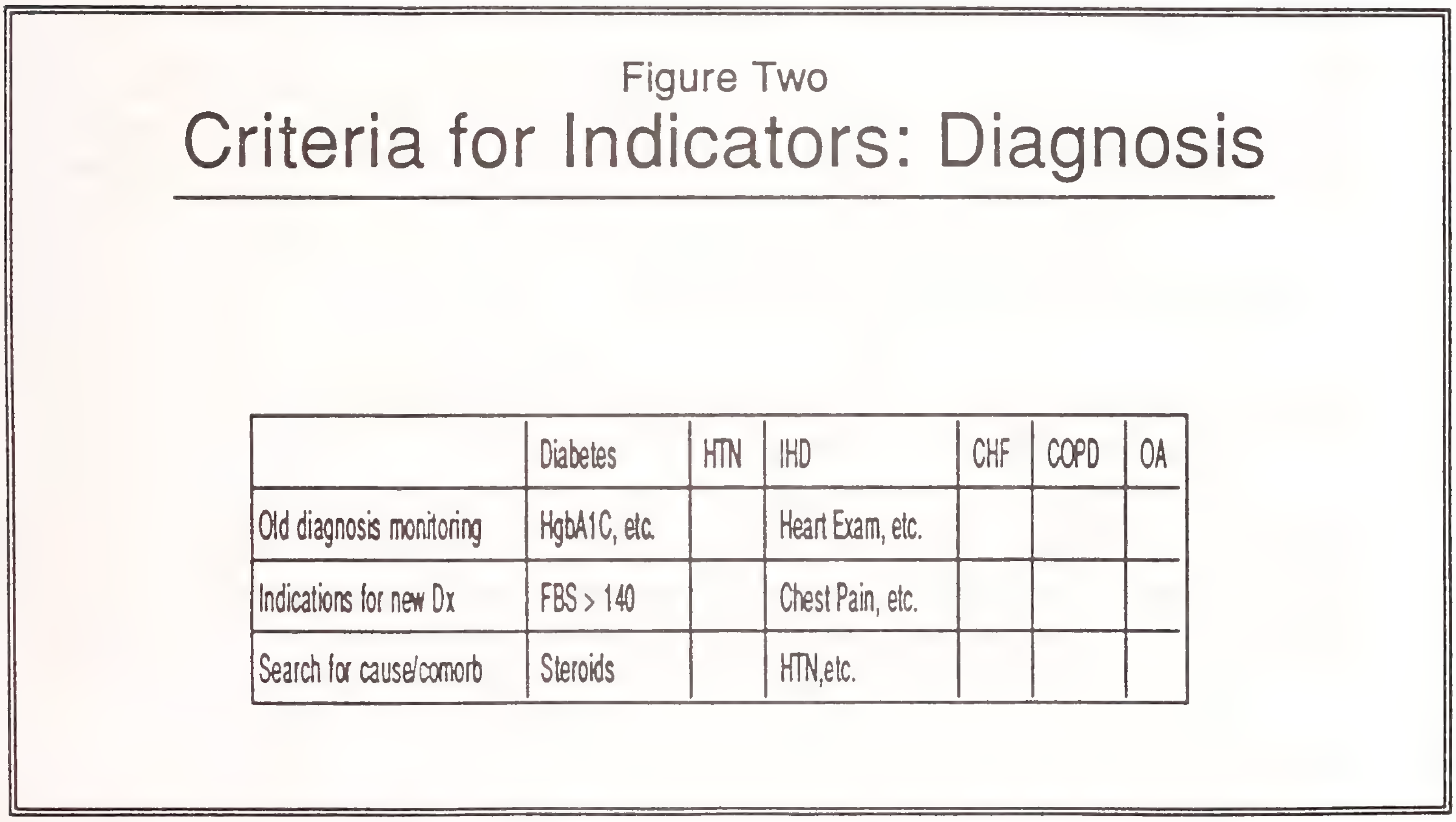

Figure Two

Criteria for Indicators: Diagnosis

	Diabetes	HTN	IHD	CHF	COPD	OA
Old diagnosis monitoring	HgbA1C, etc.		Heart Exam, etc.			
Indications for new Dx	FBS > 140		Chest Pain, etc.			
Search for cause/comorb	Steroids		HTN,etc.			

HOW THE DATA WERE COLLECTED AND SCORED

Sample

You were invited to participate in the DEMPAQ project because your name was randomly chosen from a list of all primary care physicians who provided services to Medicare patients in Maryland. The list was generated from Medicare claims data. With the letter of invitation, we included a listing of 25 of your Medicare patients. Like you, the patients had been randomly selected. We asked for photocopied records of these 25 patients for a two year window: July 1, 1989 through June 30, 1991. The charts were mailed to the Delmarva Foundation for Medical Care (DFMC) for review.

DQRS Review

The review was accomplished with a computerized record review system, developed specially for the DEMPAQ project, called DQRS (or "DEMPAQ Quality Review System"). Review criteria were stored in special data dictionaries and called into the computer program as needed. These review criteria were developed with advice and comments from the major primary care medical societies in each of the three study states. In Maryland, the groups were the Medical-Chirurgical Faculty of Maryland, the Maryland Society of Internal Medicine, and the Maryland Association of Family Physicians. Criteria were originally derived from guidelines and standard medical texts, but were revised in several cycles of review by the above mentioned physicians.

Reviewers at the PRO abstracted charts over a five month period. A five percent random sample of charts were re-reviewed by a second reviewer to make sure the abstraction rules were being followed consistently. In addition, approximately 400 records were reviewed by physicians using a structured peer review form to determine whether the review criteria were relevant and useful for assessing the of quality of care in a particular case.

Scoring

After the completion of the review, each finding is assigned one of five scores: met, acceptable alternative, not applicable, not reviewable, and flag[1]. These terms are defined in the glossary. A special computer program then calculates the acceptable performance rate on each item, indicator and function. The formula for percent acceptable performance is

$$\%\ \text{acceptable performance} = \frac{(\text{Met} + \text{AA})}{(\text{Met} + \text{AA} + \text{Flag})}$$

Summary rates are first calculated at the patient level and then averaged across all patients. This ensures that no single patients will unduly influence the summary rate.

The record documentation function is scored differently. The reviewers evaluate the quality of record documentation on a four point scale: 0 = no documentation, 1 = illegible documentation, 2 = minimal documentation, and 3 = adequate documentation. Data are then averaged across patients to create a summary score describing a physician's average level of documentation. Scores close to zero indicate poor documentation, while scores close to 3 indicate adequate documentation.

Met: meets the criterion exactly; acceptable alternative: did not meet the criterion for a set of pre-defined reasons, e.g. patient refusal; not applicable: the criterion does not apply to this case; not reviewable: the time frame for records data was insufficient to review this item for this case; flag: the case did not meet the criterion, nor any of the categories above.

TYPES OF REPORTS INCLUDED

This book includes four different types of reports, as listed below. We start with the specific (clinical item) and move to the summaries (indicator and function). Each report is formatted similarly. Tables are presented on right hand pages. On the facing, or left hand page, text describing the table appears. Below the text is a figure displaying statewide data. Some reports (the Function Summary, Indicator Summary and Record Documentation Summary) also contain additional graphic displays of group performance data on the left hand page.

I. **Clinical Item Report** - 65 tables, one for each clinical item, showing:
  - criteria used to evaluate performance for each clinical item;
  - your average performance rates for each criterion; and
  - peer group (specialty) performance data.

II. **Indicator Summary** - six tables, one for each function, showing:
  - your average performance rates for each indicator for that function;
  - peer group (specialty) performance data; and
  - a measure comparing your performance to that of your peer group,

III. **Function Summary** - one table showing:
  - your average performance rates for each function;
  - peer group (specialty) performance data; and
  - a measure comparing your performance to that of your peer group,

IV. **Record Documentation Summary**[2] - one table showing:
  - your average performance on six measures of documentation;
  - peer group (specialty) performance data; and
  - a measure comparing your performance to that of your peer group,

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[2] The record documentation results are presented separately because the data were scored differently from the data for the other functions (see "How the Data Were Collected and Scored", p. O-4).

GLOSSARY

The following terms will be used on the report tables and throughout the accompanying text:

Acceptable alternative (AA). Score category: a pre-defined reason why a recommended action could not or should not have been done.

Acceptable performance. A criterion is either met or the medical record shows an acceptable alternative.

Clinical item. A specific diagnosis (eg. diabetes mellitus), test, procedure, or drug type (eg. ACE inhibitors) representative of the functions reviewed. Items were selected on the basis of their prevalence in the Medicare population. Appendix A contains a complete list of items reviewed.

Criterion. The specific actions or clinical findings which define recommended care for a given clinical item on a particular indicator.

DEMPAQ. DEMPAQ stands for Developing and Evaluating Methods to Promote Ambulatory Care Quality.

Flag. Score category: a criterion appears not to be met.

Function. An activity performed by clinicians in caring for patients; the functions reviewed by DRS are making and monitoring a DIAGNOSIS, responding to an abnormal TEST value, prescribing and monitoring a DRUG, performing a PROCEDURE, FOLLOW-UP of serious health threats, rendering PREVENTIVE or screening services, and DOCUMENTATION of the medical record,

Indicator. A rate for the performance of key tasks or processes which influence patient outcomes. For example: the rate of appropriate MONITORING an old diagnosis, the rate of prescribing a drug without CONTRAINDICATIONS, and the rate of performing procedures only if there are appropriate INDICATIONS.

Met. Score category: the medical record shows compliance with a given criterion.

New diagnosis or drug. A diagnosis which is newly made, or a drug which is newly prescribed *during* the two year review period.

Not applicable. Score category: a criterion is not applicable to the specific case being reviewed.

Not reviewable. Score category: a case cannot be scored because the medical record does not contain the entire time frame specified by the criterion.

Peer group. Physicians in your state in your specialty group.

Performance rate. The percent of cases where the medical record shows compliance or acceptable alternative for an indicator.

Pre-existing diagnosis or drug. A diagnosis which was made or a drug which was prescribed *prior* to the beginning of the two year review period.

Quartile rank. The ranking of your performance rate, where a percentile distribution of rates has been divided into four equal parts. The higher the rank (e.g., 3 or 4), the better the performance.

- A rank of 1 means your performance rate fell between the 0th and 24th percentile, inclusive
- A rank of 2 means your performance rate fell between the 25th and 49th percentile, inclusive
- A rank of 3 means your performance rate fell between the 50th and 74th percentile, inclusive
- A rank of 4 means your performance rate fell between the 75th and 99th percentile, inclusive.

Score. A way of categorizing the findings of the review. Possible scores are MET, ACCEPTABLE ALTERNATIVE (AA), and FLAG; cases considered NOT APPLICABLE and NOT REVIEWABLE receive scores of 'NA' or 'NR.'

CLINICAL ITEM REPORTS

June 30, 1993

CLINICAL ITEM REPORTS

The Clinical Item Reports present one table for each clinical item on the right-hand page and a graph on the left-hand page. The table contains data unique to your practice and for your peer group; the graph displays statewide information. The tables are grouped clinically, e.g. all the tables related to diabetes care are grouped together: diabetes diagnosis, insulin, oral hypoglycemic drugs, blood glucose test, and urinalysis dipstick

1. How to read the Clinical Item report

The function reviewed is shown in the title. The dates covered by the review appear immediately below the title. The clinical item name appears above the table, on the right; the item code, (used by the DEMPAQ self-assessment workbook) at the left. The placement of the clinical item name, on the outside edge of the table, makes it easy to find the table when flipping through the book.

Your study number appears below the review dates, along with your peer group designation. Your peer group was determined from the specialty code on the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

The following describes how to read the clinical item table.

COLUMN	DESCRIPTION
Indicator	Displays the indicators associated with the function (Drugs, Tests, etc.) listed in the title for this page.
Criterion	Presents the criteria used to construct the indicator. The criteria are unique to the clinical item shown in the top right hand corner, just above the table.
Your Rates: Number of Patients	Shows the number of patients who were included in the rate displayed in the next column. A clinical item is evaluated only once per patient. For example, if a patient has multiple abnormal creatinine values in the record, only the first found in the records you sent triggers review.
Your Rates: Percent Acceptable Performance	Displays the "percent acceptable performance" rate on a criterion. Performance is acceptable when a criterion is met or the medical record shows an acceptable alternative (see GLOSSARY for definitions). See below for information on how the rates were calculated.
Peer Group Rates: Average Number of Patients	Shows the average number of patients ***per physician*** included in the rate shown in the next column.
Peer Group Rates: Average Percent Acceptable Performance	Presents the average percent acceptable performance rate for all physicians in your peer group. See below for information on how the rates were calculated.

2. How to interpret the Clinical Item Reports

These tables will give you an idea of how often you perform selected activities for your patients 65 and older. The average rates of physicians within your specialty who submitted records for DEMPAQ review are given so you can compare your performance to your peers. **Caution:** The number of cases in these tables tends to be small, so your rates may not be representative of your customary performance.

3. Calculating the Clinical Item Rates

Figure one below shows how the acceptable performance scores (MET and AA) for each patient are added together and divided by the total number of scores for a doctor (MET + AA + FLAG) to give a performance rate for each criterion (see rows 1 and 3, below). A physician's monitoring rate is calculated by averaging individual patient monitoring scores (see row 3, below).

Figure One

Calculating Rates for a Clinical Item

Diabetes Diagnosis

	Patnt 1	Patnt 2	Patnt 3	Patnt 4	Patnt 5	Rate*
If on Steroids, review	NA	NA	Met	Flag	Flag	1/3=33%
Bl. glu > 250 with symps, etc.	NA	NA	Met	Met	Flag	2/3=67%
Overall Dx Monitor	75%	38%	NA	NA	NA	(75+38)/2=57%

*Rate=(Met+AA)/(Met+AA+Flag)
*Rate=Met,AA=1
*Rate=Flag+0

Each monitoring rate may be derived from up to eight individual monitoring scores. Overall monitoring rates are the percentage of monitoring criteria with met or acceptable alternative findings. In the example below, patient number one has 6 met or AA scores on the individual criteria, one flag score and one score which is not included in either the numerator or the denominator. Thus, the overall monitoring rate for patient one is 86%.

Figure Two

Calculating Rates for Monitoring

Diabetes Diagnosis

	Patient 1	Patient 2	Rate*
Overall Dx Monitor Rate	6/7=86%	3/8=38%	(75+38)/2=57%
Comment control	Met	Flag	1/2 = 50%
Wt, pulse, BP	Met	Met	2/2 = 100%
HgbA1C	Flag	Flag	0/2 = 0%
U/A Dipstick	Met	Met	2/2 = 100%
Blood Glucose	AA	Met	2/2 = 100%
Diet Comply	AA	Flag	1/2 = 50%
Heart, leg, foot exam	Met	Flag	1/2 = 50%
Fundoscopy	NR	Flag	1/2 = 50%

*For Criteria: Rate=(Met+AA)/(Met+AA+Flag)
*For Overall: Rate= average of overall rates
*Met,AA = 1: Flag= 0

4. Calculating peer group rates

Peer group rates are constructed by averaging individual physician performance rates, by specialty. Only physicians who submitted records for the DEMPAQ review are included in the peer group rate.

5. What is NOT included in these tables

Several clinical items have been excluded from this report, although data were collected for them. These clinical items appear in the DEMPAQ workbook. The items were excluded for one of two reasons: either there were too few cases to report (less than 30 in the entire state) or problems with the criteria and abstracting instructions lead to unusable results. Excluded items include:

- Adrenergic neuron blockers
- Direct acting vasodilators
- Potassium sparing diuretics
- Alpha blocker + thiazide
- Beta blocker + thiazide
- Centrally acting + thiazide
- Antiadrenergic + Thiazide+ Vasodilator
- Vasodilator + thiazide
- Antiadrenergic + vasodilator
- Corticosteroids
- Salicylate
- NSAIDs
- Oral beta-adrenergic + xanthine
- Penicillin
- Antipseudomonal penicillin
- Sulfonamide
- ESR test
- Blood gases
- Joint X-ray
- Rheumatoid arthritis
- Flexible Sigmoidoscopy
- Colonoscopy

6. Where to go for more information

The DEMPAQ Self-Assessment Workbook contains the full text for each of the criteria shown on these tables with references to the medical texts and guidelines from which the criteria were derived. If you wish more information about why a particular criterion was selected, the Workbook will supply that information.

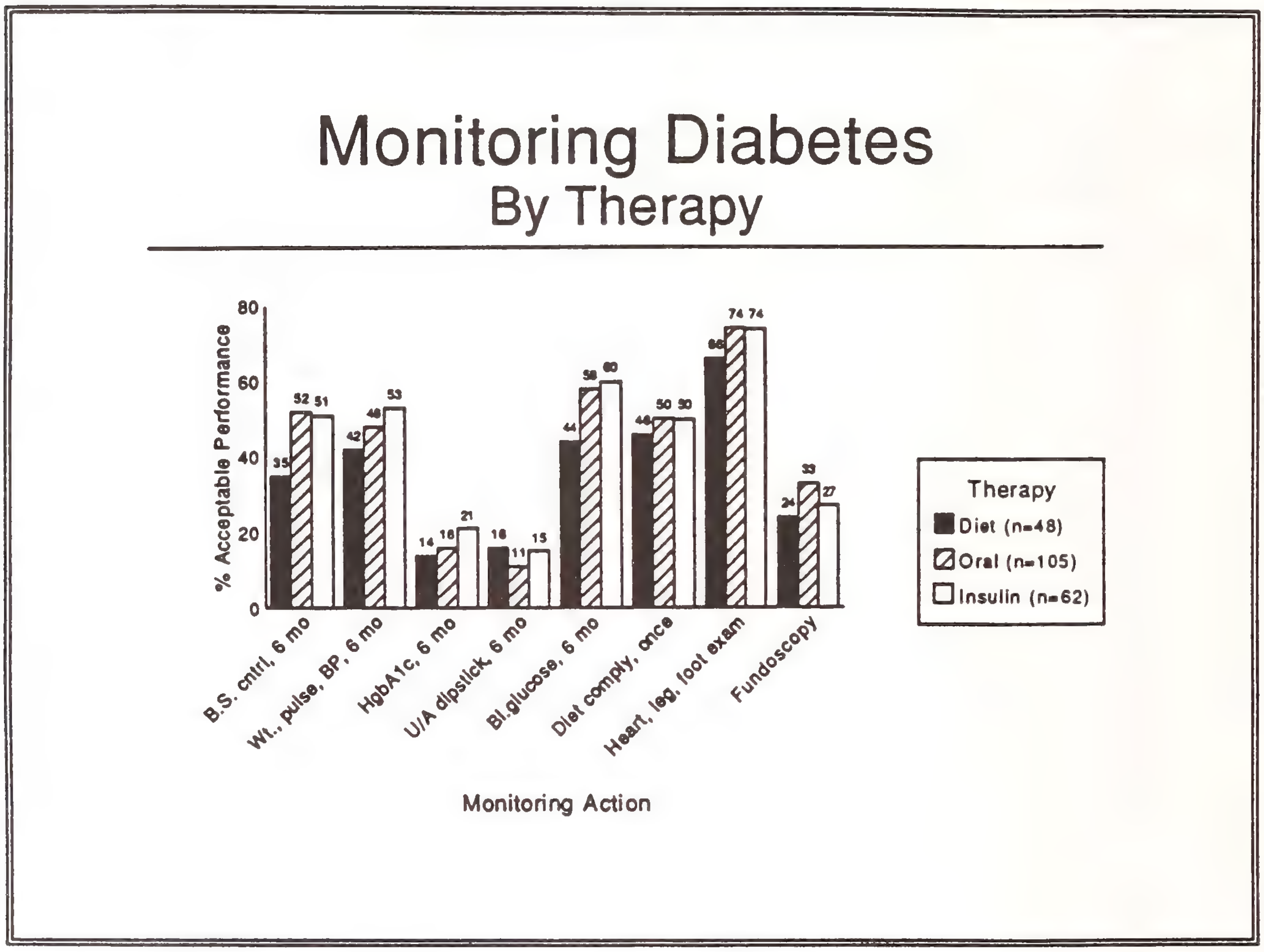
The tables in the next two sections, the Indicator Summary and Function Summary reports, provide aggregate information about performance.

DIABETES

DIABETES

The table on the opposite page displays the results of the review of your diabetic patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the diabetes criteria compared to your specialty group rates.

The figure below shows old diagnosis monitoring by three different types of therapy for the entire state of Maryland.



CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

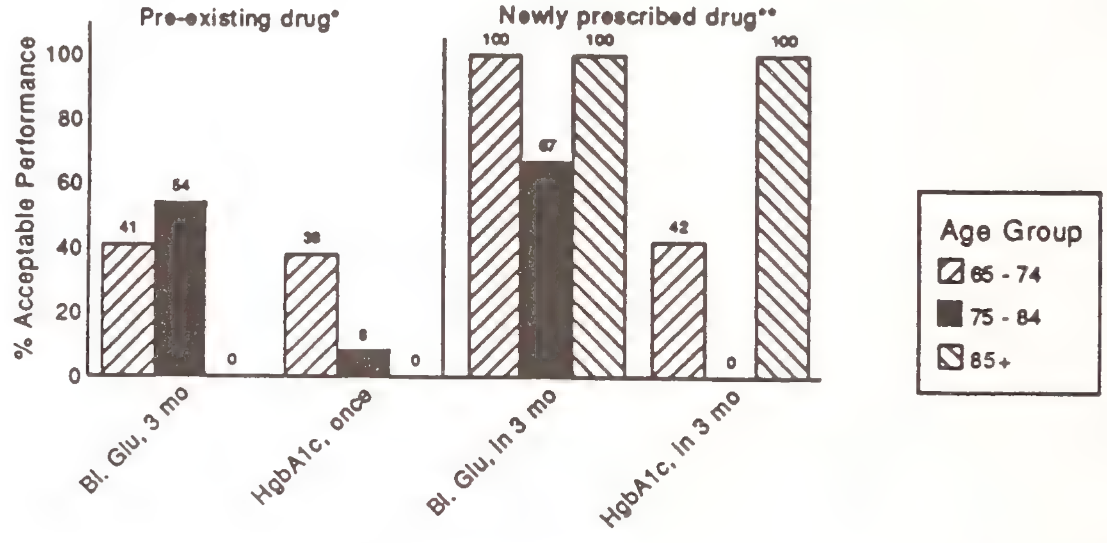
Peer Group: General Practice

CODE: 05 **DIABETES**

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	3.1	37%
	Comment on bl. glucose control - q. 6 mos	3.0	42%
	Weight, pulse, BP - q. 6 mos	3.0	44%
	HgbA1C or fructosamine - q. 6 mos	3.0	5%
	Urinalysis dipstick for protein and microscopic exam of sediment - q. 6 mos	3.0	7%
	Bl. glucose - q. 6 mos	3.0	39%
	Document dietary compliance - once	3.1	39%
	Heart exam, leg and foot exam - once	3.1	55%
	Fundoscopy - once	3.1	30%
Evidence for a New Diagnosis	Bl. glucose >250 with symptoms of DM OR two FBS >140 OR bl. glucose levels during GTT >250 at 2 hrs and some point between 0 and 2 hrs	0.3	40%
Search for Treatable Causes	If on steroids, possible potentiating role reviewed	0.2	0%

The table on the opposite page displays the results of the review of those patients on insulin, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment workbook. The remaining columns show your performance rates on the insulin criteria compared to your specialty group rates.

The figure below presents statewide data for patients taking insulin.


Insulin Monitoring
By Age Group

* Pre-existing drugs: n=36 (65-74), n=13 (75-84), n=2 (85+)

** Newly prescribed drugs: n=7 (65-74), n=3 (75-84), n=1 (85+)

Drugs within this class

Generic	Trade
Regular	Iletin
Regular+Isophane	Mixtard
Regular, human	Humulin
Regular+Isophane	Humulin 70/30, Mixtard 70/30, Novolin 70/30
Isophane (NPH)	NPH Iletin
Isophane, human	Humulin N
Zinc	Lente Iletin
Zinc, human	Humulin L, Novolin L
Extended Zinc	Ultralente Iletin
Extended Zinc, human	Humulin U Ultralente
Prompt Zinc	Semilente Iletin
Protamine Zinc	Protamine Zinc & Iletin

CLINICAL ITEM REPORT - Drugs

Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

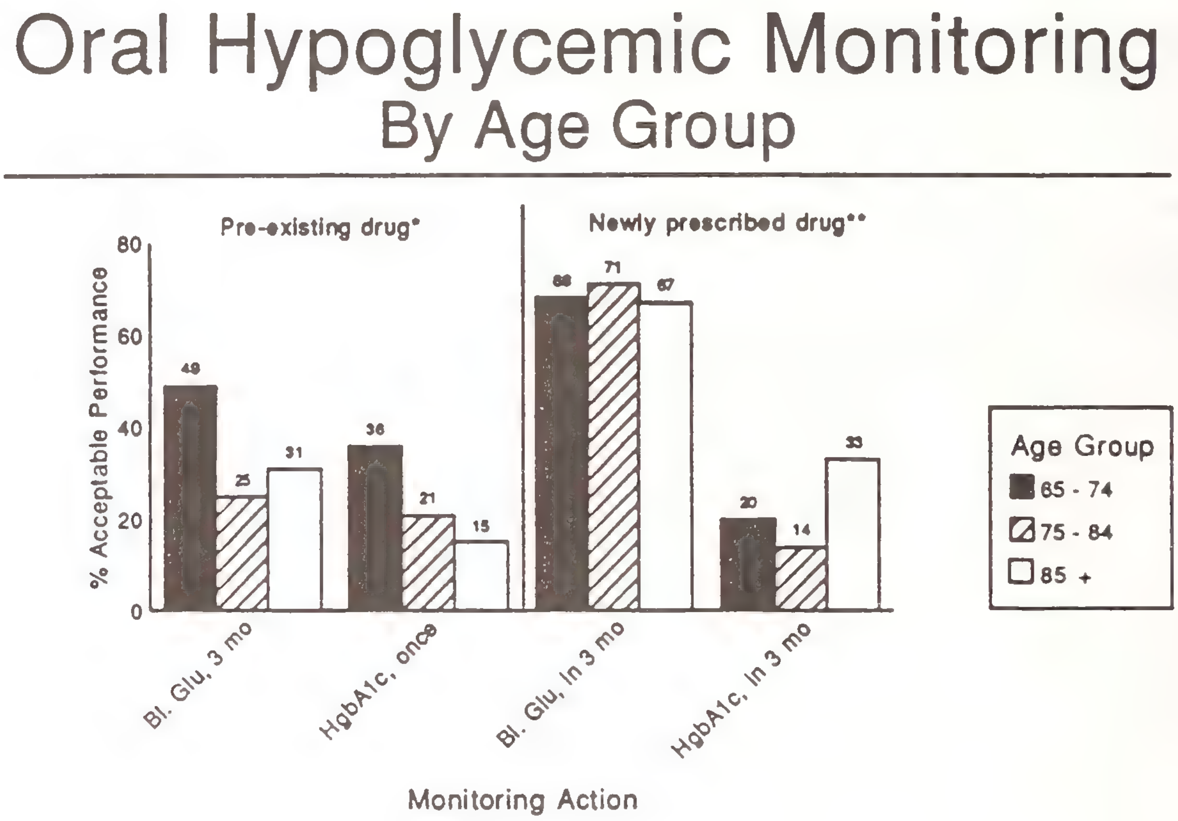
CODE: 31 INSULIN

Indicator	Criterion	Peer Group Rates: Average Number of Patients per Physician	Peer Group Rates: Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1.5	93%
	Dose Documented	1.5	100%
	Frequency Documented	1.5	93%
Drug Indications	Drug prescribed appropriately for: Insulin-dependent/non-insulin-dependent DM	0.3	100%
Condition Contraindications	NA		
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Fenfluramin, long-term high-dose corticosteroid therapy, beta blockers	1.5	86%
Drug Monitoring	Overall Monitoring Score	1.5	58%
	Old Drugs:		
	Blood glucose - q. 3 mos	1.1	41%
	HgbA1C or fructosamine - once	1.2	21%
	New Drugs:		
	Blood glucose - within 3 mos start of therapy	0.2	67%
	HgbA1C or fructosamine - within 3 mos start of therapy	0.2	33%
	If on beta blocker, educate re hypoglycemia.	0.1	50%

ORAL HYPOGLYCEMIC

The table on the opposite page displays the results of the review of those patients on oral hypoglycemic drugs, with comparison to your specialty. The five drug indicators are displayed in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below presents statewide data for patients taking oral hypoglycemic drugs.


Oral Hypoglycemic Monitoring
By Age Group

* Pre-existing drug: n=54 (65-74), n=36 (75-84), n=13 (85+)
** Newly prescribed drug: n=25 (65-74), n=7 (75-84), n=3(85+)

Drugs within this class

Generic	Trade
Acetohexamide	Dymelor
Chlorpropamid	Diabinese, Glucamide
Glipizide	Glucotrol
Glyburide	Diabeta, Micronase
Tolazamide	Tolamide, Tolinase
Tolbutamide	Oramide,Orinase

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 32 **ORAL HYPOGLYCEMIC**

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	**Average Percent Acceptable Performance**
Dose and Frequency	Both dose and frequency documented	2.7	86%
	Dose Documented	2.7	90%
	Frequency Documented	2.7	86%
Drug Indications	Drug prescribed appropriately for: DM, non-insulin-dependent or diabetes insipidus, partial central	0.9	89%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Patient >65 (chlorpropamide), renal impairment (glyburide)	2.7	96%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Beta blockers, insulin **Risk/benefit:** Phenytoin, long-term high-dose corticosteroids, anticoagulants, thiazides, calcium channel blockers, long-term high-dose salicylates, captopril	2.7	56%
Drug Monitoring	Overall Monitoring Score	2.6	53%
	Old Drugs:		
	Blood glucose - q. 3 mos	1.7	22%
	HgbA1C - once	1.8	29%
	If on anticoagulants - PT q. 1 mo	0.0	0%

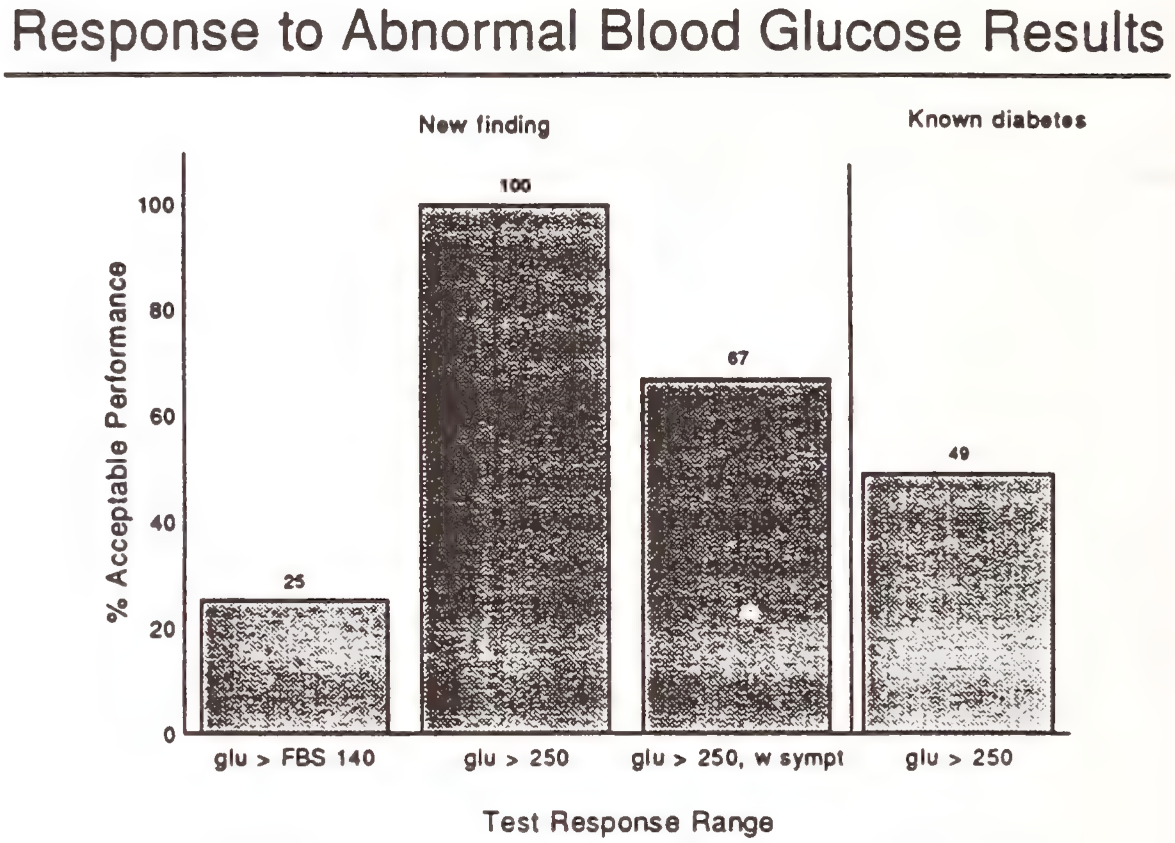
(cont'd)

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	New Drugs:		
	Blood glucose - within 3 mos start of therapy	0.9	74%
	HgbA1C - within 3 mos start of therapy	0.9	16%
	If on anticoagulants - PT within 1 wk start of therapy	0.0	%
	If on beta blockers, note in records re education to patient about hypoglycemia	0.1	0%
	If on chlorpropamide - Na+ within 1 mo start of therapy	0.0	100%

BLOOD GLUCOSE

The table on the opposite page displays the results of the review of those patients with abnormal blood glucose tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with abnormal blood glucose tests.


Response to Abnormal Blood Glucose Results

N (from left to right) 12, 3, 3, 105.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 05 GLUCOSE-FASTING AND RANDOM BLOOD LEVELS

		Peer Group Rates	
Indicator	**Criterion**	**Average Number of Patients per Physician**	**Average Percent Acceptable Performance**
Test Indications	Tests ordered appropriately for: **Annually if obese, family history of diabetes, or had gestational diabetes:** **Conditions:** Alcoholism, polyuria, polydipsia, polyphagia, wt loss, visual changes, glycosuria, DM, confirm self-monitoring values	2.3	81%
Test Urgent Response	Patient referred to hospital or ER for lab values: Glucose >400 with ketonuria and metabolic ketoacidosis OR glucose >700 and change in mental status.	0.0	%
Test Response	Overall score:	2.2	32%
	Abnormal test results appropriately followed up: **Not Known to be Diabetic:**		
	Glucose <50: Within 1 wk repeat glucose after 12-hr fast OR get plasma insulin.	0.0	%
	Blood glucose >140 (if known to be fasting): Within 1 mo recheck before diagnosing DM, either with fasting glucose, glucose tol. test, OR 2-hr post-prandial test. Perform dipstick urinalysis for glycosuria/ketonuria. Review results within 2 wks.	0.1	0%
	Glucose >250: Within 3 mos dipstick urinalysis for glycosuria/ketonuria and if ketones positive, perform FBS OR bl. glucose at timed relationship to intake and serum electrolytes. Review results in 1 wk. If ketones neg., recheck bl. glucose at a known time interval after intake OR perform fasting bl. glucose.	0.0	%
	Glucose >250 and urine ketones positive: Within 2 days bl. glucose, fasting or at timed relationship to intake and serum electrolytes. Review results within 1 wk.	0.0	%
	Glucose >250 but symptoms of wt loss, excess fluid intake, excess urine: Within 1 wk diagnose diabetes and start therapy with dietary advice, with or w/o oral hypoglycemic or insulin therapy. Review results within 1 wk.	0.0	%

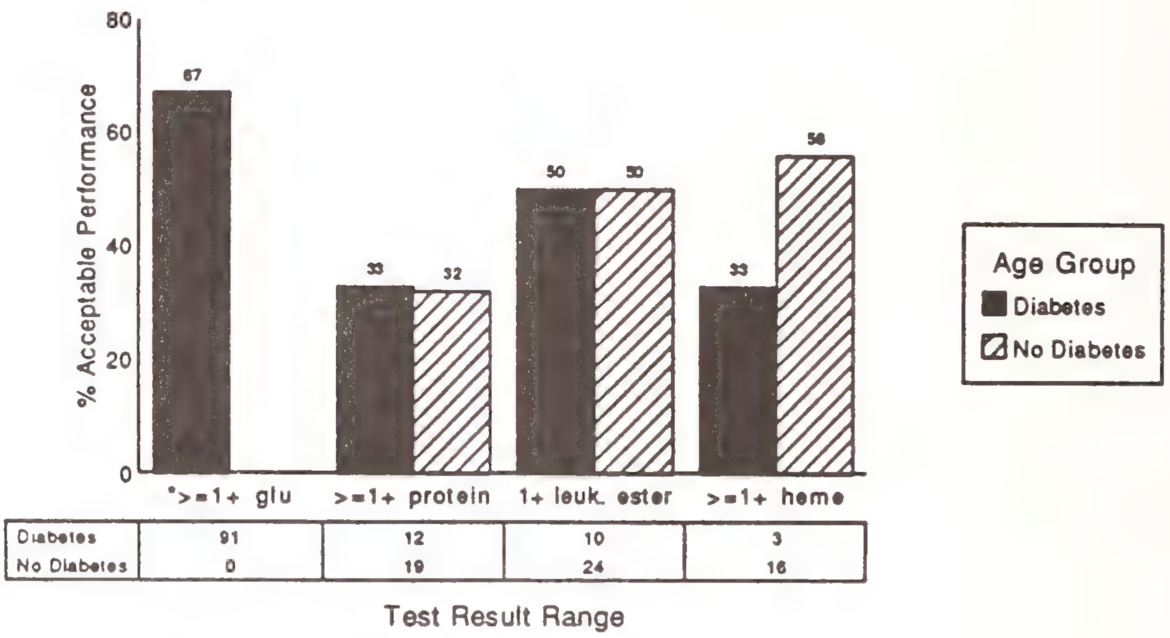
(cont'd)

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	Known to be Diabetic: Glucose <50: Within 2 days ask if symptoms of hypoglycemia; if yes, decr. dose of oral agent (or disc. if low dose) OR decr. insulin dose.	0.0	%
	Bl. glucose >250 (not known to be fasting) or >170 (fasting): Within 1 wk start or incr. dose of oral antidiabetic OR start insulin therapy OR change insulin regime unless noted why action not performed (e.g., infec., stress, poor dietary compliance).	2.1	34%

URINALYSIS

The table on the opposite page displays the results of the review of those patients with abnormal urinalysis tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the urinalysis criteria compared to your specialty group rates.

The figure below presents statewide data for patients with abnormal urinalysis tests.



Response to Abnormal U/A Results

With and Without Diabetes

*This test range applies only to diabetes.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 09

URINE DIPSTICK

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions: Any Visit:** Suspicion of urinary tract infec., known DM, HTN, trauma, kidney stones, susp. of renal or urinary tract disease, disease that may affect renal func., polyuria, oliguria, on drugs that may affect renal func.	1.8	99%
Test Urgent Response	Patient referred to hospital or ER for lab values: 4+ ketones with or w/o glucose (unless on diet or fasting)	0.0	%
Test Response	Overall score: Abnormal test results appropriately followed up:	1.8	49%
	≥3 + urine glucose in diab: Within 1 wk check dietary and med. compl. and change therapy if req. If in nondiabetic, within 1 wk check bl. glucose at timed relationship to food intake, check urine ketones. Review results in 1 mo.	0.2	83%
	≥1 + protein, new finding, no known diab: Within 2 wks check urine cult. or leukocyte esterase. If infec., treat appropriately OR if not infec., within 2 wks check early a.m. urine sediment and dipstick and serum creat. If early a.m. proteinuria found, check 24-hr urine for protein. Rev. results in 1 mo.	0.4	33%
	≥1 + protein, new finding, known diab. or HTN, or drugs that affect kidney func: Within 2 wks check urine cult. and serum creat. If infec., treat with antibiotics. See patient to review results within 1 mo. OR if no infec., within 2 wks check urine sediment, serum creat. See patient to review findings in 2 wks or req. consult or referral.	0.2	67%
	4 + protein, no DM, repeat urinalysis. Check serum creatinine, quantitative protein or creatinine/protein ration. If > 3g protein in 24 hours or equivalent on spot urine, do urine immunoassay, eletrophoresis, and review results within 1 month OR request consultation OR referral.	0.1	0%

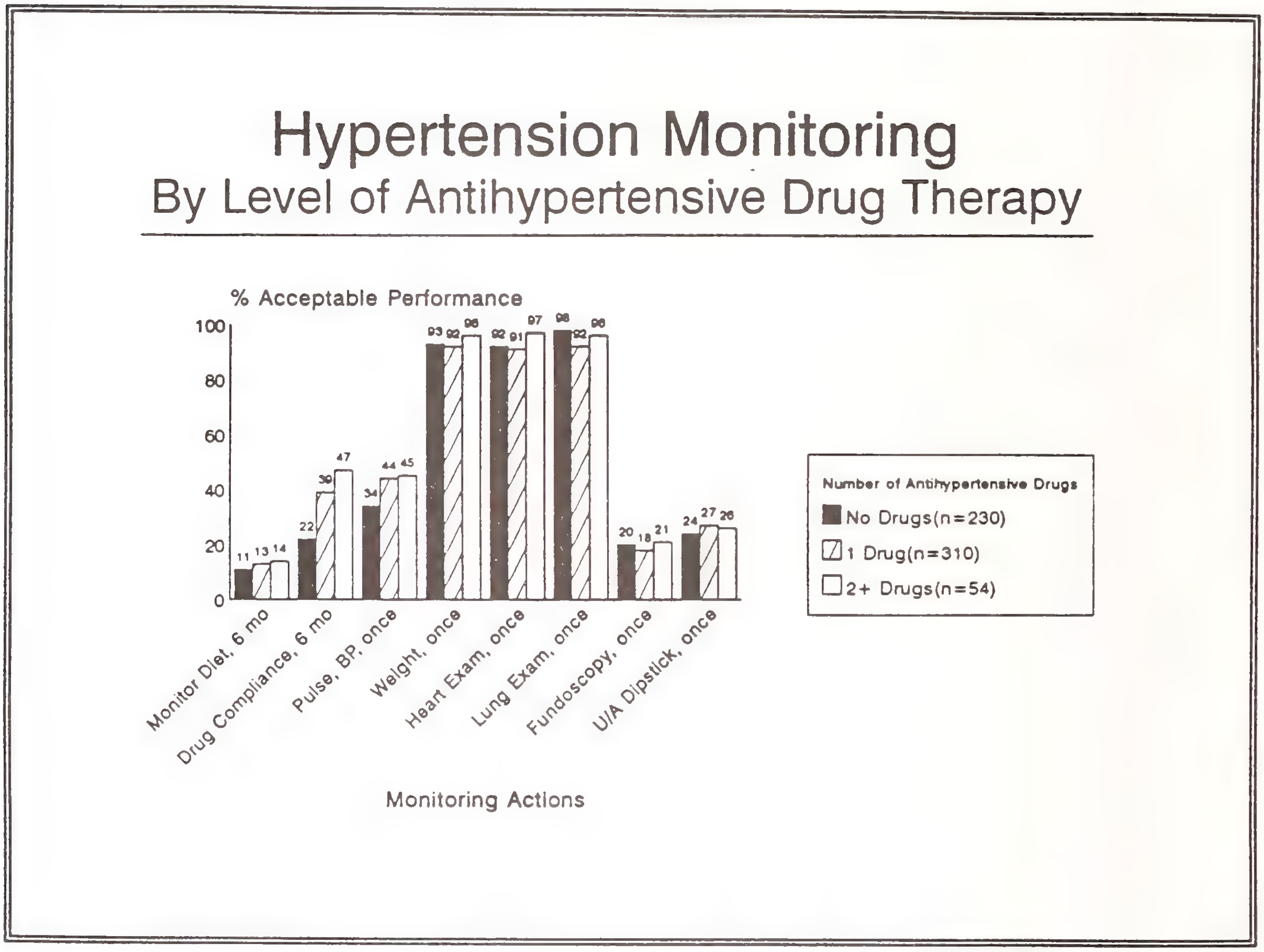
(cont'd)

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	1 + leukocyte esterase: Within 1 wk check urine cult. or microsc. exam. If positive, start treatment.	0.5	43%
	≥1 + ketones, no urine glucose: Within 1 wk review history for fasting, dehydration, alcohol use. Hydrate and review patient by next day. **OR** ≥1 + ketones and urine glucose: Within 1 wk check bl. glucose at known relationship to food intake, serum total CO_2 and ketones. Review by next day.	0.0	%
	≥1 + heme: Within 2 wks check for urinary infec. If infec., treat with antibiotic. **OR** ≥1 + heme, no urinary infec., with ≥1 + proteinuria: Within 2 wks microsc. exam of urine sediment. If hematuria confirmed and red cell casts seen, refer to nephrology. If no red cell casts seen, do IVP AND/OR cystoscopy AND/OR ultrasound. **OR** ≥1 + heme, no urine infec., no proteinuria: Within 2 wks, prostate exam in male, pelvic exam in female. Do IVP AND/OR cystoscopy AND/OR ultrasound.	0.4	50%

HYPERTENSION

The table on the opposite page displays the results of the review of your hypertensive patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the hypertension criteria compared to your specialty group rates.

The figure below presents statewide data for patients with hypertension.



CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

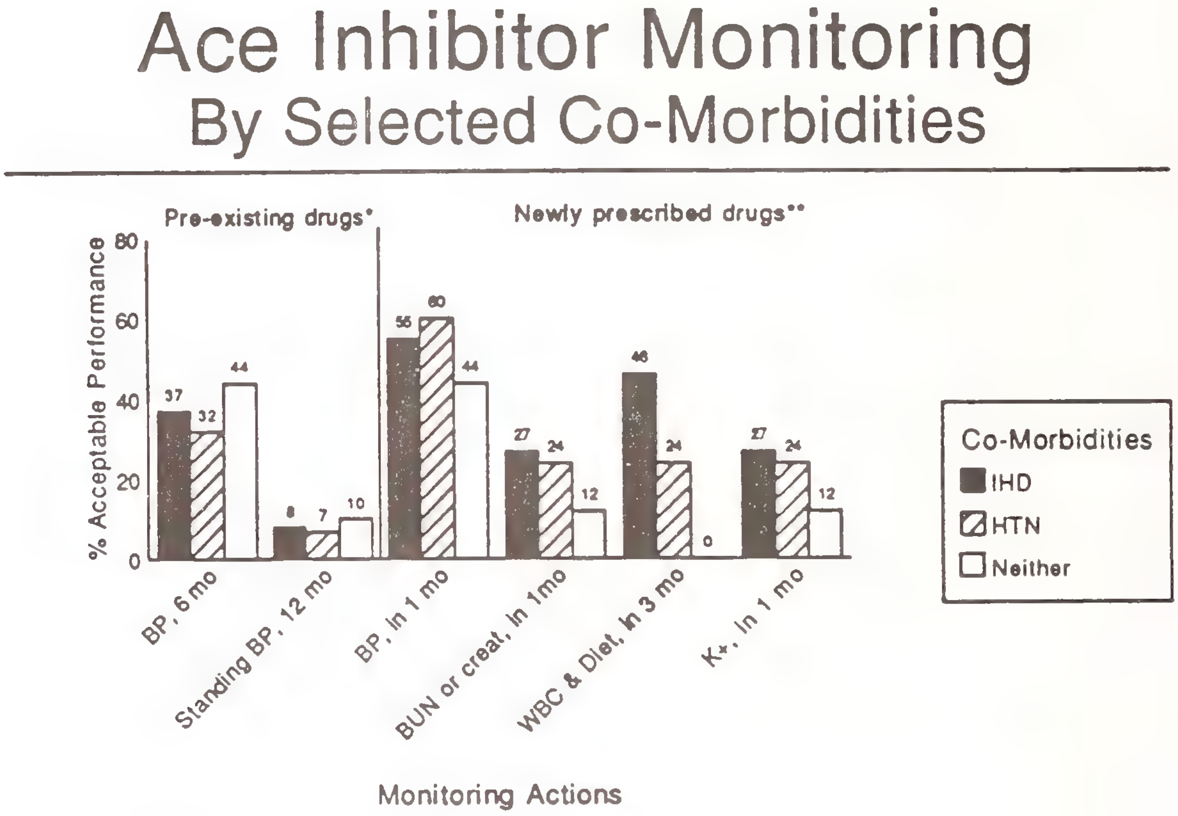
Peer Group: General Practice

CODE: 01 **HYPERTENSION**

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	7.5	50%
	Monitor diet - q. 6 mos	6.7	9%
	Monitor drug compliance (if applicable) - q. 6 mos	6.4	33%
	Pulse, BP - q. 6 mos	6.7	40%
	Weight - once	7.5	96%
	Heart exam - once	7.4	90%
	Lung exam - once	7.4	88%
	Fundoscopy - once	7.4	20%
	U/A dipstick for protein - once	7.4	17%
Evidence for a New Diagnosis	DBP ≥90 on two occasions OR SBP ≥140 on two occasions OR any DBP ≥130	0.6	58%
Search for Treatable Causes	If DBP >105 on two occasions, look for renal disease AND hyperaldosteronism AND obesity AND inq. re alcohol intake AND if on hypertensive med., possible causative role.	0.5	0%

The table on the opposite page displays the results of the review of those patients on ACE inhibitors, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the ACE Inhibitor criteria compared to your specialty group rates.

The figure below presents statewide data for all patients taking ACE inhibitors.



* Pre-existing drugs: n=19 (IHD), n=77 (HTN), n=27 (Neither)

** Newly prescribed drugs: n=11 (IHD), n=67 (HTN), n=16 (Neither)

Drugs within this class

Generic	Trade
Captopril	Capoten
Enalapril	Vasotec
Lisinopril	Prinivil, Zenstril

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

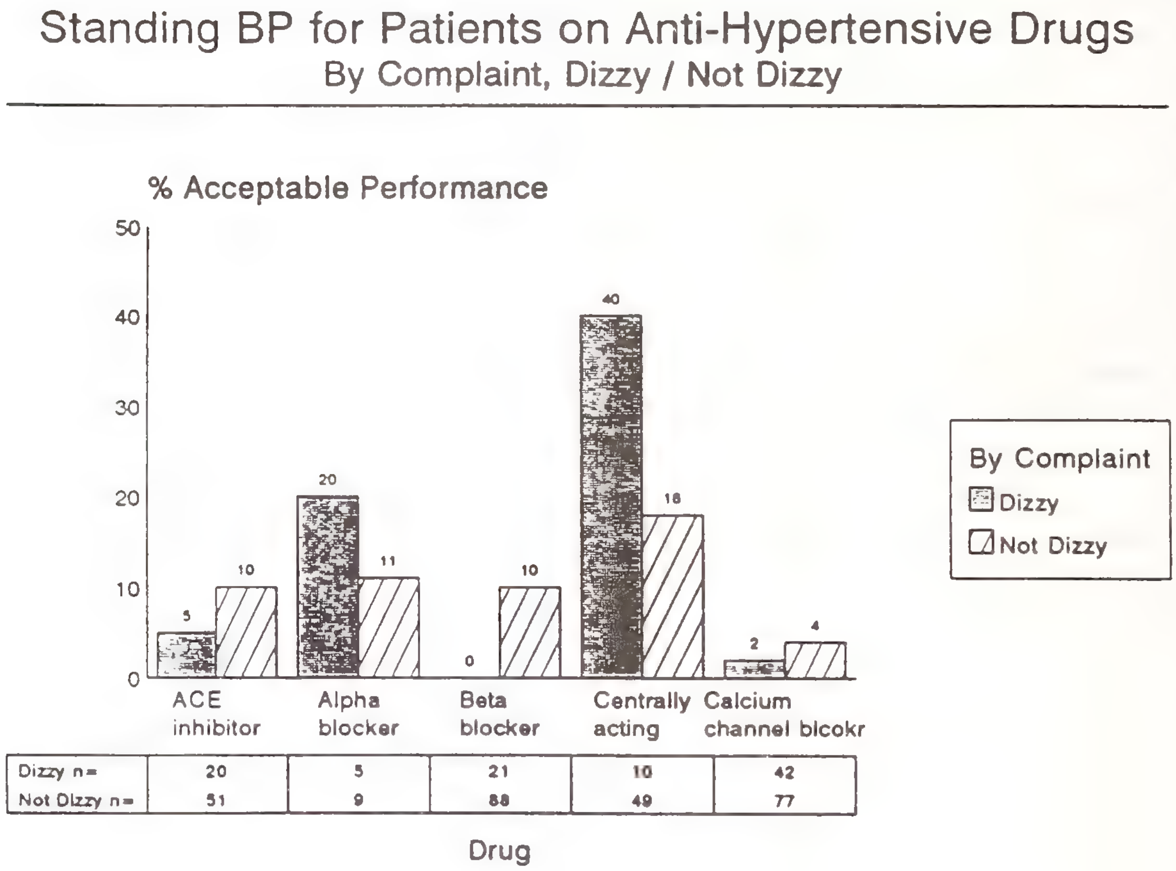
CODE: 01 ANGIOTENSIN-CONVERTING ENZYME (ACE) INHIBITOR

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.7	93%
	Dose Documented	2.7	96%
	Frequency Documented	2.7	93%
Drug Indications	Drug prescribed appropriately for: HTN, CHF, Bartter's syndrome	1.4	90%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Risk/benefit:** Angioedema, hyperkalemia, COPD, chronic cough	2.7	94%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Potassium-sparing diuretics	2.7	94%
Drug Monitoring	Overall Monitoring Score	2.3	19%
	Old Drugs:		
	BP - q. 6 mos, regular	1.0	33%
	BP - q. 12 mos, standing	0.7	0%
	If renal dis. - BUN or creat. q. 3 mos	0.0	%
	New Drugs:		
	BP - within 1 mo start of therapy	1.2	40%
	BUN or creat. - within 1 mo	1.2	19%
	WBC and diff. - within 3 mos	1.1	14%
	K+ - within 1 mo	1.2	19%
	If renal dis.- BUN or creat. within 3 mos	0.0	100%

ALPHA BLOCKERS

The table on the opposite page displays the results of the review of those patients on alpha blockers, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the alpha blocker criteria compared to your specialty group rates.

The figure below presents statewide data for patients taking alpha blockers.



	ACE inhibitor	Alpha blocker	Beta blocker	Centrally acting	Calcium channel blcokr
Dizzy n=	20	5	21	10	42
Not Dizzy n=	51	9	88	49	77

Drugs within this class

Generic	**Trade**
Prazosin	Minipress
Terazosin	Hytrin

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

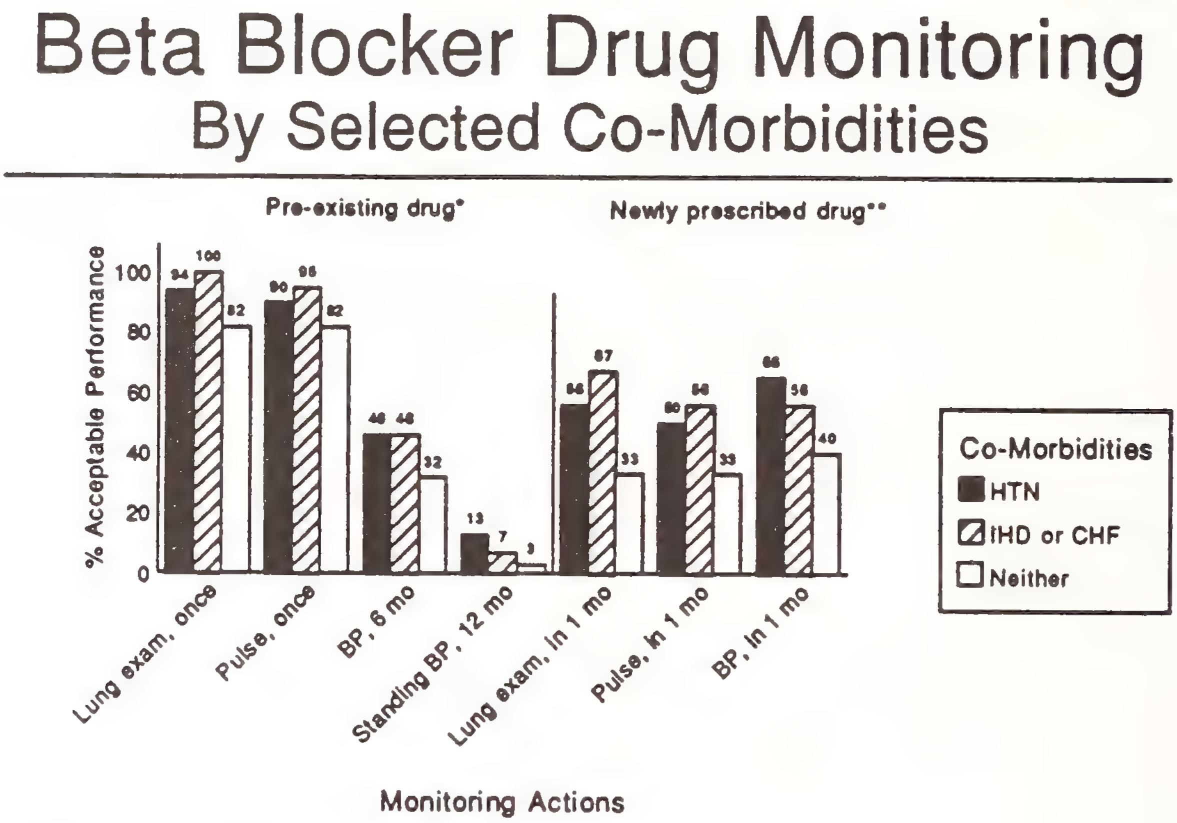
CODE: 03 **ANTIADRENERGIC - PERIPHERAL ALPHA BLOCKER**

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1.4	57%
	Dose Documented	1.4	71%
	Frequency Documented	1.4	57%
Drug Indications	Drug prescribed appropriately for: HTN, CHF, Raynaud's phen., bladder outlet obstr., benign prostatic hypertrophy	0.6	100%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Risk/benefit:** Orthostatic hypotension	1.4	100%
Drug Contraindications	NA		
Drug Monitoring	Overall Monitoring Score	1.3	33%
	Old Drugs:		
	BP - q. 6 mos, regular	0.7	33%
	BP - q. 12 mos, standing	0.3	50%
	If CHF - wt and lung exam q. 6 mos	0.0	%
	New Drugs:		
	BP - within 1 mo start of therapy	0.6	50%
	If CHF - wt and lung exam within 1 mo start of therapy	0.0	%
	If angina - within 1 mo start of therapy educate patient re possible exacerbation	0.0	%
	If incontinence - follow-up visit within 1 mo start of therapy	0.0	%

BETA BLOCKERS

The table on the opposite page displays the results of the review of those patients on beta blockers, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the beta blocker criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking beta blockers.



Beta Blocker Drug Monitoring
By Selected Co-Morbidities

* Pre-existing drugs: n=115 (HTN), n=40 (IHD/CHF), n=50 (Neither)

** Newly prescribed drugs: n=34 (HTN), n=9 (IHD/CHF), n=15 (Neither)

Drugs within this class

Generic	Trade
Acebutolol	Sectral
Atenolol	Tenormin
Carteolol	Cartrol
Labetalol	Normodyne, Trandate
Metoprolol	Lopressor
Nadolol	Corgard
Penbutolol	Levatol
Pindolol	Visken
Propranolol	Inderal
Timolol	Blocadren
Kerlone	Betaxolol

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: General Practice

CODE: 04 ANTIADRENERGIC - BETA BLOCKER

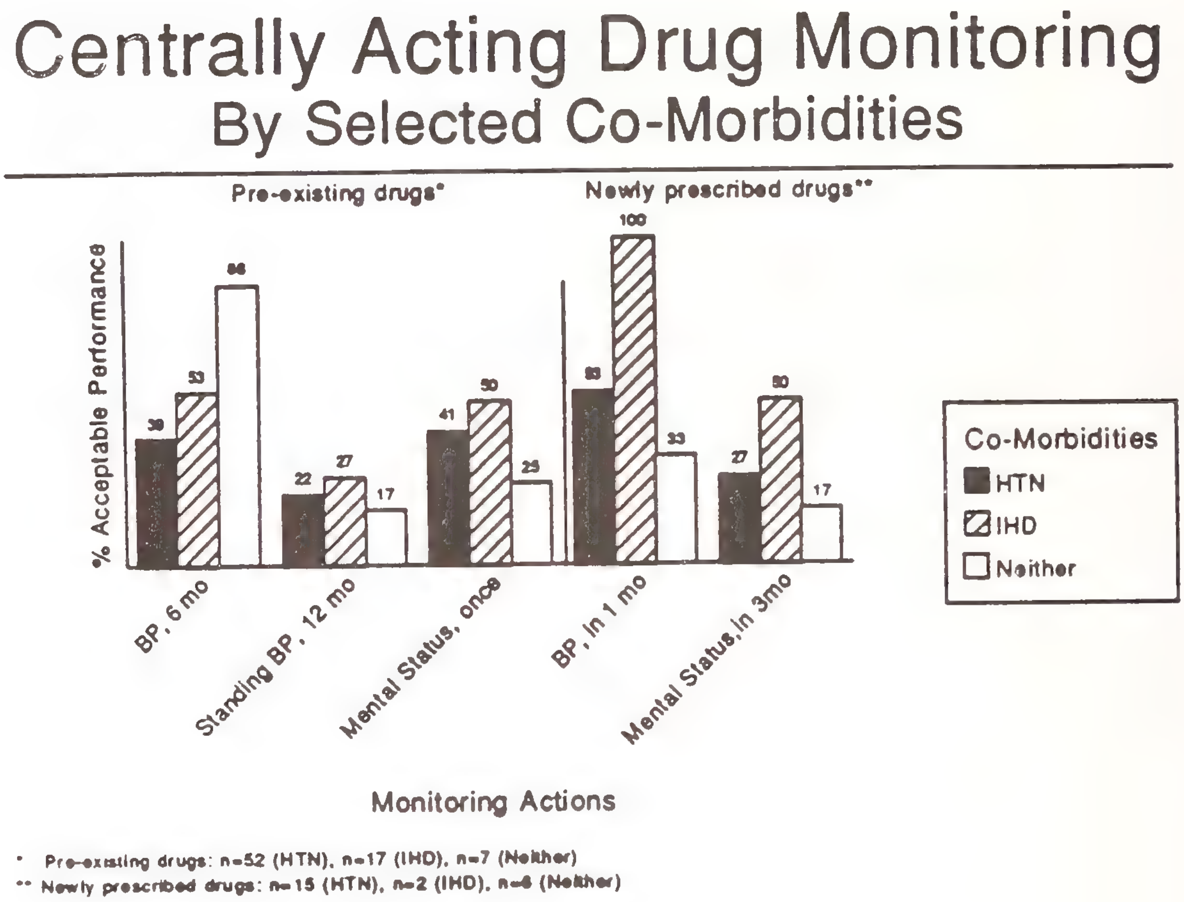
Indicator	Criterion	Peer Group Rates: Average Number of Patients per Physician	Peer Group Rates: Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	3.5	92%
	Dose Documented	3.5	97%
	Frequency Documented	3.5	92%
Drug Indications	Drug prescribed appropriately for: Angina, vent. arrhyth., HTN, hypertrophic cardiomyopathy, myocardial reinfarct prophylaxis, pheochromocytoma, vascular headache prophylaxis, non-Parkinson's tremor, "stage-fright" anxiety, thyrotoxicosis, Barlow's synd., atrial arrhythmias	1.1	68%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Heart block, asthma, COPD **Risk/benefit:** Mental depression, Raynaud's phen., intermittent claudication	3.5	88%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Calcium ch. blockers, oral antidiabetic agents, insulin, indomethacin, Timolol eyedrops	3.5	84%
Drug Monitoring	Overall Monitoring Score	3.4	54%
	Old Drugs:		
	Lung exam - once	2.4	85%
	Pulse rate - once	2.4	87%
	BP - q. 6 mos, regular	2.3	33%

(cont'd)

Indicator	Criterion	Peer Group Rates: Average Number of Patients per Physician	Peer Group Rates: Average Percent Acceptable Performance
	BP - q. 12 mos, standing	1.7	6%
	If depression - mental state (mood) once	0.2	100%
	If asthma or emphysema - lung exam once	0.1	100%
	New Drugs:		
	Lung exam - within 1 mo start of therapy	1.0	36%
	Pulse rate - within 1 mo start of therapy	1.0	47%
	BP - within 1 mo start of therapy	1.0	52%
	If depression - mental state within 3 mos	0.0	%
	If on oral hypoglycemics or insulin, educate patient re masking of hypoglycemia	0.1	0%
	If asthma/emphysema - lung exam within 1 mo start of therapy	0.0	0%

The table on the opposite page displays the results of the review of those patients on centrally acting antiadrenergic drugs, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the centrally acting drug criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking centrally acting drugs.



* Pre-existing drugs: n=52 (HTN), n=17 (IHD), n=7 (Neither)
** Newly prescribed drugs: n=15 (HTN), n=2 (IHD), n=6 (Neither)

Drugs within this class

Generic	Trade
Clonidine	Catapres (includes patches)
Guanabenz	Wytensin
Guanfacine	Tenex
Methyldopa	Aldomet
Reserpine	Serpasil

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 05 **ANTIADRENERGIC - CENTRALLY ACTING**

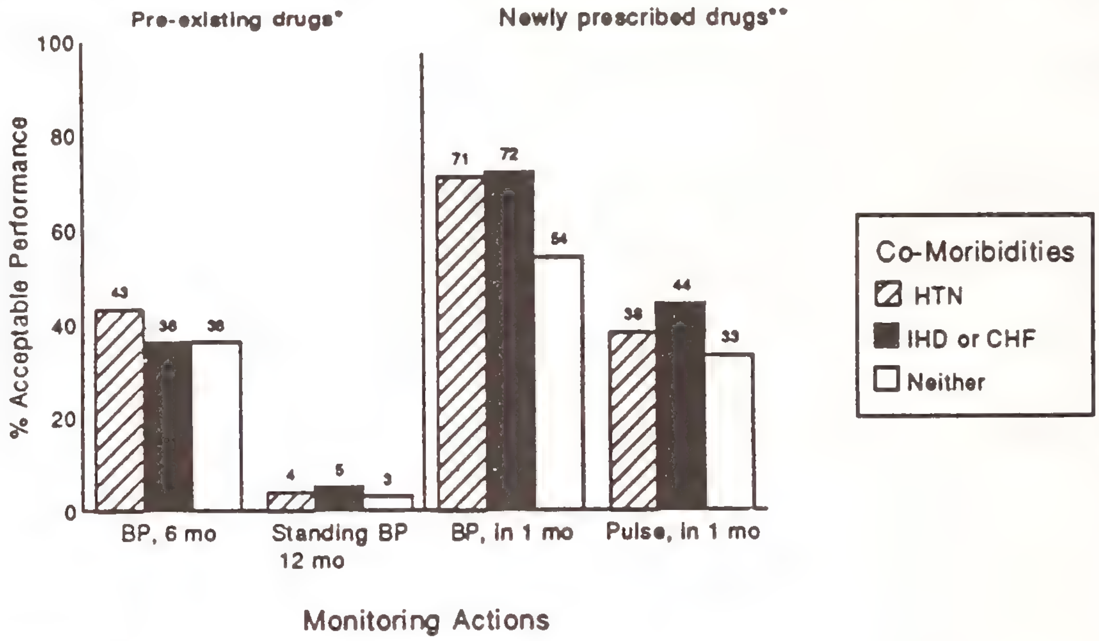
Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.1	85%
	Dose Documented	2.1	87%
	Frequency Documented	2.1	85%
Drug Indications	Drug prescribed appropriately for: HTN; headache, vascular; nicotine dependence	0.7	88%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Hepatic disease (active) **Risk/benefit:** Mental depression	2.1	97%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Tricyclic antidepressants, monoamine oxidase inhibitors	2.1	97%
Drug Monitoring	Overall Monitoring Score	1.9	26%
	Old Drugs:		
	BP - q. 6 mos, regular	1.1	44%
	BP - q. 12 mos, standing	1.1	12%
	Mental status (mood) - once	1.1	29%
	If methyldopa - CBC, Hct once	0.3	50%
	If methyldopa - SGOT, SGPT - once	0.2	0%
	New Drugs:		
	BP - within 1 mo start of therapy	0.7	31%
	Mental status (mood) - within 3 mos	0.7	13%
	If methyldopa - HCT, CBC within 3 mos	0.1	0%
	If methyldopa - SGOT, SGPT within 3 mos	0.1	0%

CALCIUM CHANNEL BLOCKER

The table on the opposite page displays the results of the review of those patients on calcium channel blockers with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the calcium channel criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking calcium channel blockers.

Calcium Channel Blocker Monitoring
with Selected Co-Morbidities



* Pre-existing drugs: n=120(HTN), n=76(IHD or CHF), n=66(Neither)
**Newly prescribed drugs: n=77(HTN), n=32(IHD or CHF), n=24(Neither)

Drugs within this class

Generic	Trade
Diltiazem	Cardizem
Nicardipine	Cardene
Nifedipine	Adalat, Procardia
Verapamil	Calan, Isoptin, Verelan

CLINICAL ITEM REPORT- Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

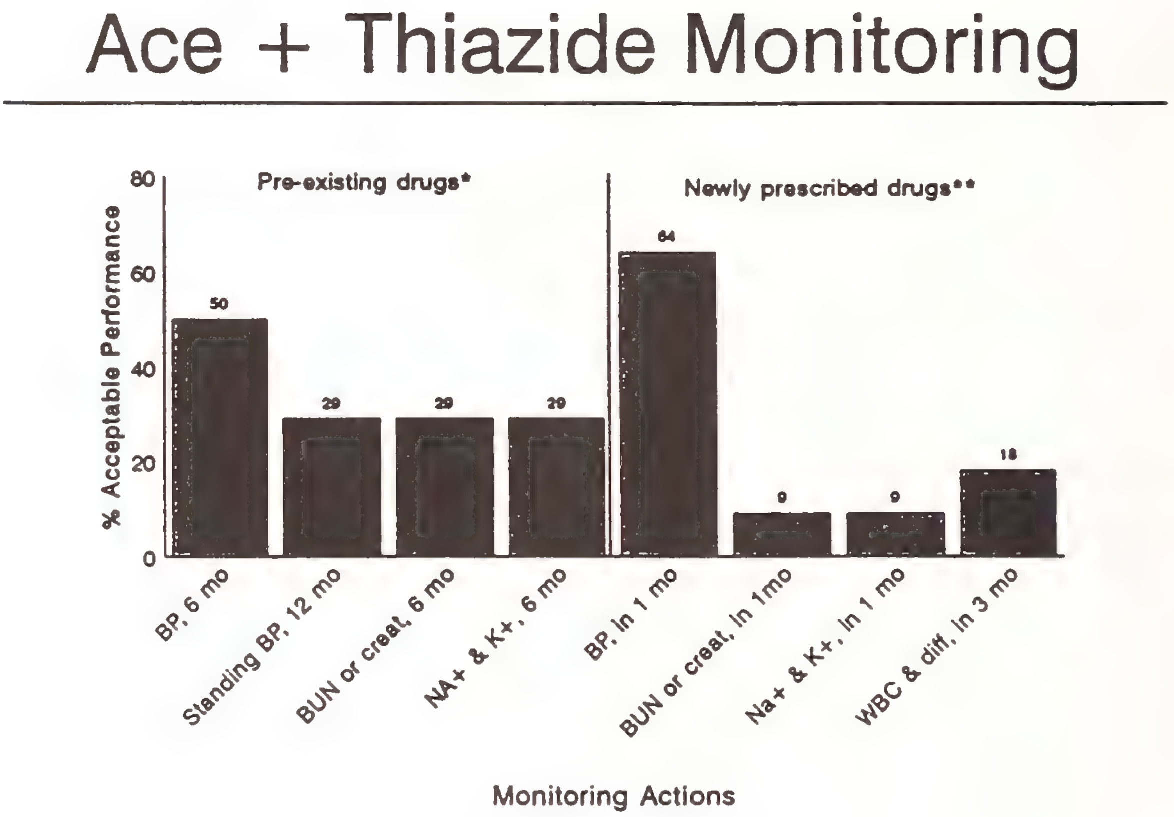
CODE: 06 CALCIUM CHANNEL BLOCKER

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	3.6	90%
	Dose Documented	3.6	90%
	Frequency Documented	3.6	90%
Drug Indications	Drug prescribed appropriately for: Angina, HTN, Raynaud's phen., hypertrophic cardiomyopathy, migraine	1.4	91%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Heart block, sick sinus synd., Wolff-Parkinson-White synd. **Risk/benefit:** Bradycardia, CHF	3.6	87%
Drug Contraindications	NA		
Drug Monitoring	Overall Monitoring Score	3.2	40%
	Old Drugs:		
	BP - q. 6 mos, regular	1.9	55%
	BP - q. 12 mos, standing	1.4	1%
	New Drugs:		
	BP - within 1 mo start of therapy	1.3	55%
	Pulse - within 1 mo start of therapy	1.3	41%
	If taking beta blocker - pulse rate and rhythm or ECG within 1 mo start of therapy	0.1	33%
	If on digoxin and add verapamil - digitalis level or lower digoxin dose within 1 mo start of therapy	0.0	0%

ACE INHIBITOR + THIAZIDE DIURETIC

The table on the opposite page displays the results of the review of those patients on combination ACE inhibitor/thiazide diuretic with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking this combination drug.



* Pre-existing drugs: N=14
** Newly prescribed drugs: N= 11

Drugs within this class

Generic	Trade
Hydrochlorothiazide+Captopril	Capozide
Hydrochlorothiazide+Enalapril	Vaseretic
Hydrochlorothiazide+Lisinopril	Prinizide, Zestoretic

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 11 ACE INHIBITOR + THIAZIDE DIURETIC

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1.3	100%
	Dose Documented	1.3	100%
	Frequency Documented	1.3	100%
Drug Indications	Drug prescribed appropriately for: HTN if stepped therapy fails	0.8	100%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Severe renal impairment, hypercalcemia, hyperuricemia **Risk/benefit:** Angioedema, hyperkalemia, gout, COPD, impaired hepatic function, SLE	1.3	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: Absolute: None **Risk/benefit:** Oral anti-diabetic agents, insulin, long-term high-dose corticosteroid therapy	1.3	50%
Drug Monitoring	Overall Monitoring Score	1.3	20%
	Old Drugs:		
	BP - q 6 mos, regular	0.5	0%
	BP - q. 12 mos, standing	0.5	50%
	BUN or creat. - q. 6 mos	0.5	50%
	Na+ and K+ - q. 6 mos	0.5	50%
	If on lithium - lithium levels q. 3 mos	0.0	%
	If diabetes - bl. glucose q. 3 mos	0.3	100%
	If long-term steroids - K+ q. 3 mos	0.0	%
	If impaired liver function - K+ and Na+ q. 3 mos	0.0	%

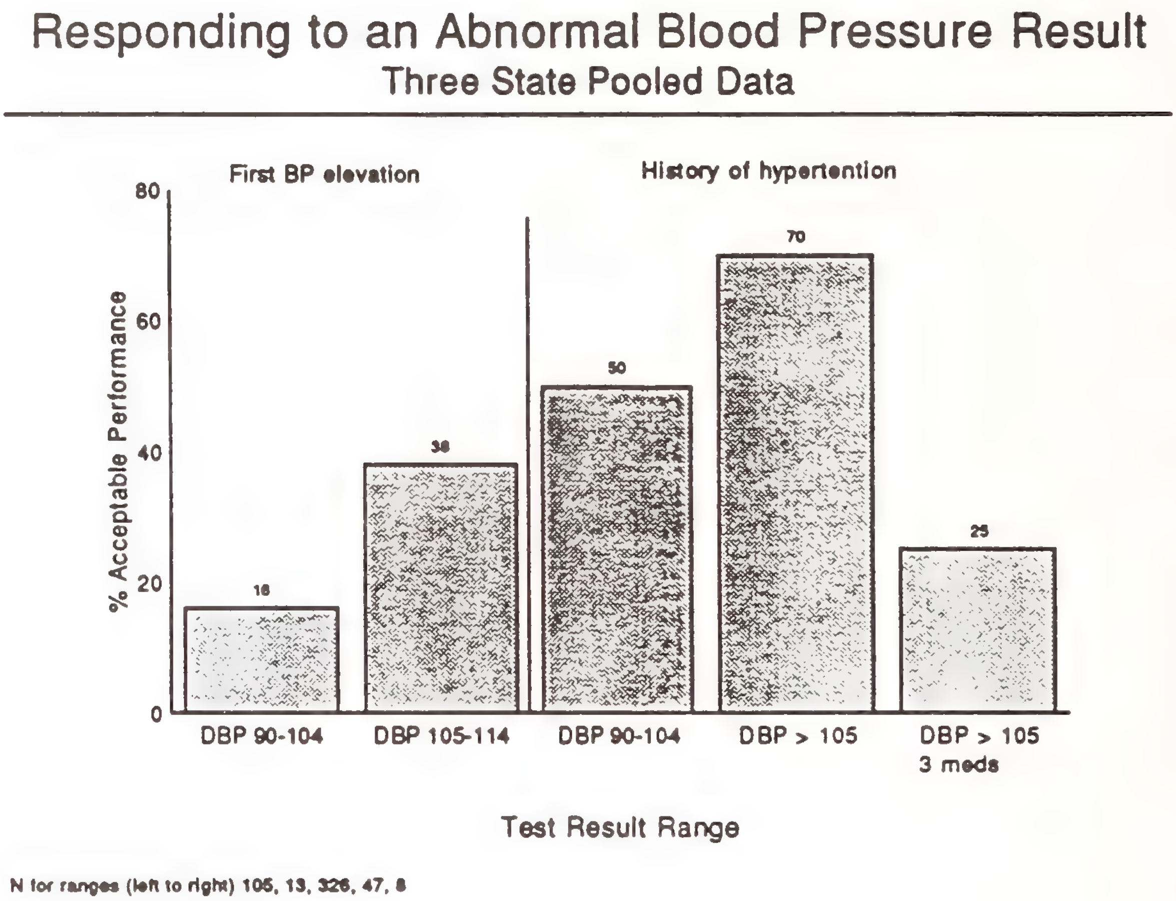
(cont'd)

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	New Drugs:		
	BP - within 1 mo	0.8	0%
	BUN or creat. - within 1 mo	0.8	0%
	Na+ and K+ - within 1 mo	0.8	0%
	WBC and diff. - within 3 mos	0.8	0%
	If diabetes - bl. glucose within 3 mos	0.3	0%
	If lithium - lithium levels within 3 mos	0.0	%
	If on long-term steroids - K+ within 3 mos	0.0	%
	If impaired liver function - Na+ and K+ within 3 mos	0.0	%

BLOOD PRESSURE

The table on the opposite page displays the results of the review of those patients with abnormal blood pressure tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with abnormal blood pressure measurements.



Responding to an Abnormal Blood Pressure Result
Three State Pooled Data

N for ranges (left to right) 105, 13, 326, 47, 8

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

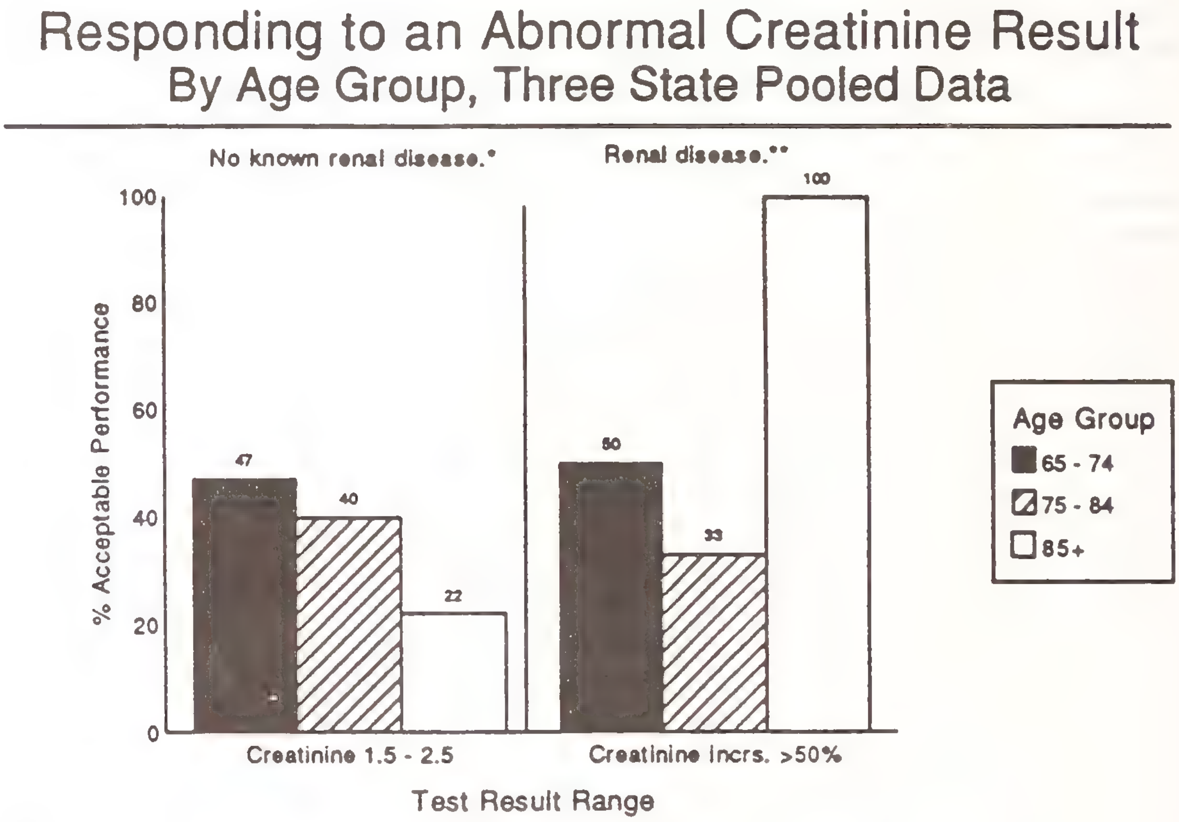
CODE: 01 **BLOOD PRESSURE - DIASTOLIC BLOOD PRESSURE ≥90**

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Drug Monitoring:** Estrogen, ethanol, steroids, thyroxin, non-steroidals, bronchodilators **Conditions:** HTN, cor. artery disease, renal disease, diabetes	3.3	97%
Test Urgent Response	Patient referred to hospital or ER for lab values: If patient not known hypertensive, diast. BP >130 If patient hypertensive on treatment, diast. BP >140	0.0	%
Test Response	Overall score:	2.4	52%
	Abnormal test results appropriately followed up:		
	Diast. BP 90-104 at least twice as new finding: Within 1 wk, treat w/no added salt, wt reduction, lower alcohol. If on HTN-prod.med., decr. or disc. Retest within 2 mos.	0.7	35%
	Diast. BP 105-114 at least twice as new finding: Within 1 wk, treat as above OR drug therapy as below. Retest within 1 wk.	0.1	0%
	Diast. BP 115-130 at least twice as new finding: Within 1 day, initiate therapy w/1 or more anti-HTN med. Retest within 2 wks.	0.0	%
	Diast. BP 90-104 and previously abnormal: Within 1 wk, reaffirm treatment. Add, incr., or subst. meds unless patient not complying w/current. Retest within 3 mos. If not controlled within 6 mos and not on 2-drug therapy, req. consult. OR referral.	1.3	51%
	Diast. BP >105 and previously abnormal: Within 1 day, add, incr., or subst. meds unless patient not complying with current. Retest within 3 mos. If not controlled within 6 mos and not on 2- or 3-drug therapy, req. consult. OR referral.	0.4	71%
	Diast. BP >105, previously abnormal, and on 3-drug therapy more than 3 mos: Within 1 day, referral or workup. Retest within 3 mos. If not controlled within 3 mos, req. consult. OR referral.	0.0	%

SERUM CREATININE

The table on the opposite page displays the results of the review of those patients with abnormal serum creatinine tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with abnormal serum creatinine levels.



* No known renal disease: n=66 (65-74), n=77 (75-84), n=32 (85+)

**Renal Disease: n=8 (65-74), n=6 (75-84), n=1 (85+)

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 07 **CREATININE - SERUM CREATININE >1.5**

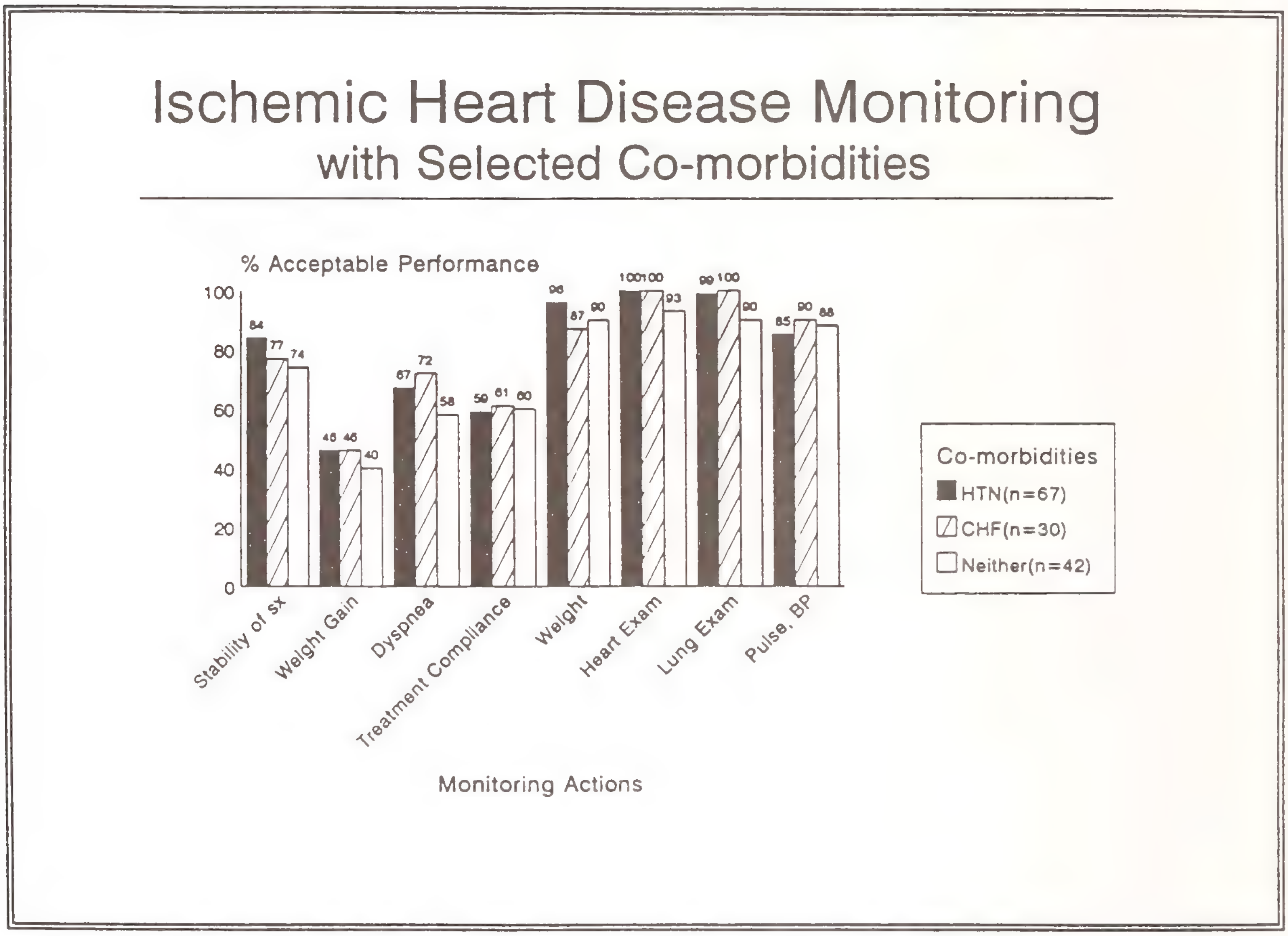
Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions:** Renal disease, HTN, diabetes, CHF, new onset proteinuria or abnorm. urine cell count, ACE inh., nonsteroidal anti-inflamm. drugs, all drugs mainly excreted through kidneys	1.6	85%
Test Urgent Response	Patient referred to hospital or ER for lab values: New value creat. >10	0.0	%
Test Response	Overall score:	1.4	57%
	Abnormal test results appropriately followed up:		
	Not Known Renal Disease:		
	New finding creat. 1.5-2.5: Within 1 mo, if on drugs that affect renal func., decr. or disc. meds. Check urine sediment exam and culture, and retest serum creat. within 3 mos. If still abnorm., req. consult OR referral.	1.3	65%
	New finding >2.5 and if on drugs that affect renal func.: Within 2 wks decr. or disc. meds. Check urinary sediment exam and culture and check 24-hr urine collection for creat. clearance. Retest creat. within 2 mos.	0.0	%
	Known Renal Disease:		
	Creat. incr. >50% above that patient's prior baseline: Within 2 wks, if on drugs that affect renal func., decr. or disc. meds. Check urinary sediment exam and culture and creat. clearance. If creat. clearance has fallen, req. consult OR referral within 2 mos.	0.1	0%

ISCHEMIC HEART DISEASE

ISCHEMIC HEART DISEASE

The table on the opposite page displays the results of the review of your ischemic heart disease patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with ischemic heart disease.



CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

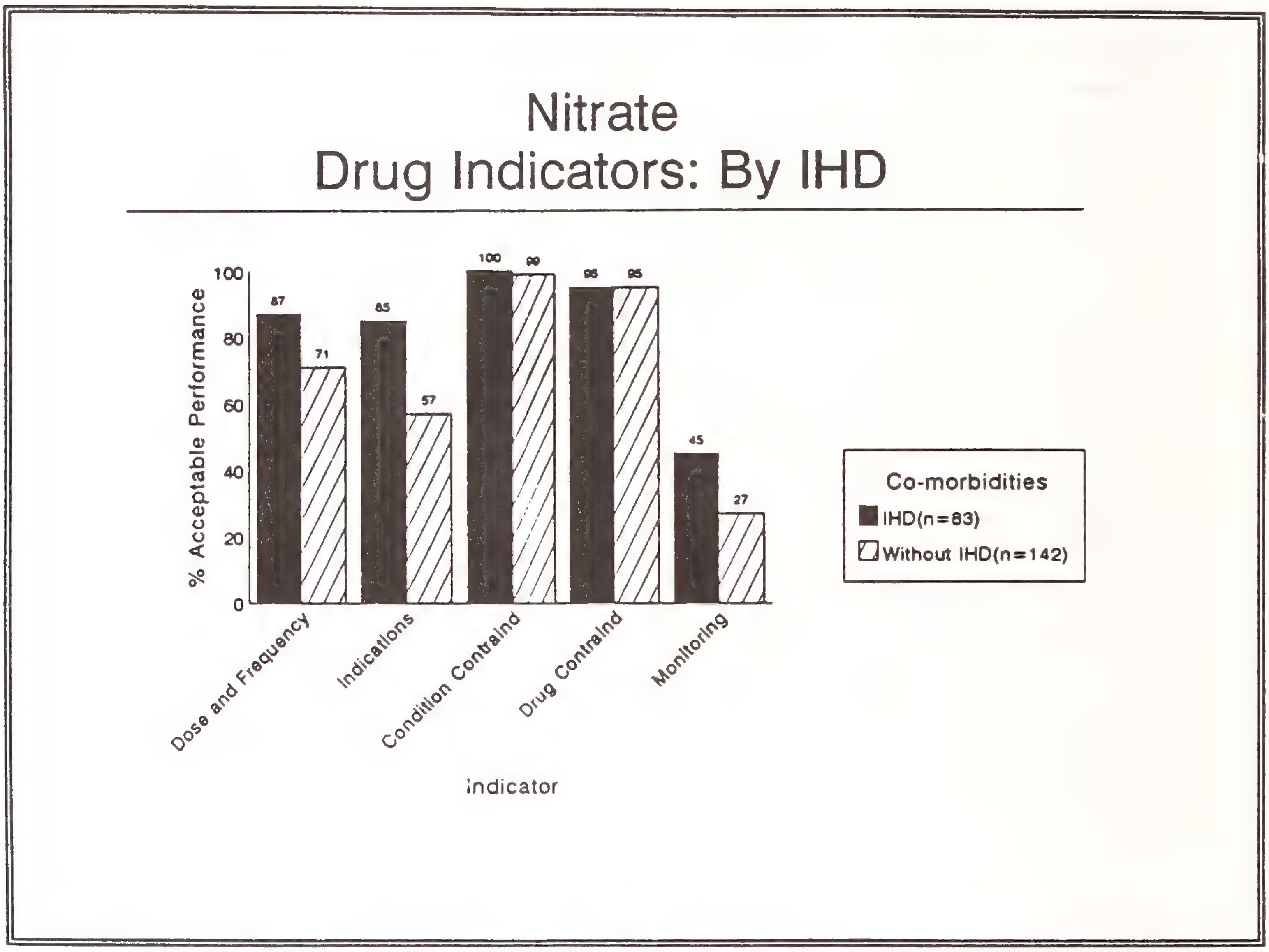
Code: 02 ISCHEMIC HEART DISEASE

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	2.1	79%
	Stability of symptoms - once	2.1	77%
	Weight gain - once	1.9	34%
	Dyspnea - once	2.1	72%
	Review compliance (diet, drugs, smoking, alcohol, if applicable) - once	1.9	60%
	Weight - once	2.1	100%
	Heart exam - once	2.1	98%
	Lung exam - once	2.1	96%
	Pulse, BP - once	2.1	88%
Evidence for a New Diagnosis	Cardiac chest pain OR exercise tolerance test OR positive cardiac catheterization	0.7	4%
Search for Treatable Causes	HTN AND valvular heart disease AND anemia AND inq. re smoking habits AND obesity AND serum cholesterol AND bl. glucose	0.5	10%

NITRATES

The table on the opposite page displays the results of the review of those patients on nitrates with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the nitrate criteria compared to your specialty group rates.

The figure below shows statewide data for patients using nitrates.



Nitrate
Drug Indicators: By IHD

Drugs within this class

Generic	**Trade**
Erythrityl tetranitrate	Cardilate
Isosorbide dinitrate	Dilatrate SR, Iso-Bid, Isonate, Isorbid, Isordil, Isotrate, Sorbitrate
Nitroglycerin (buccal, lingual, oral, sublingual)	Nitro-Bid, Nitrocap, Nitrogard, Nitroglyn, Nitrol, Nitrolin, Nitrolingual, Nitronet, Nitrospan, Nitrostat, Tridil
Nitroglycerin (transdermal)	Deponit, Nitrocine, Nitrodisc, Nitro-Dur, NTS, Transderm-Nitro
Pentaerythritol tetranitrate	Duotrate, Naptrate, Pentritil, Pentylan, Peritrate

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 21 NITRATE

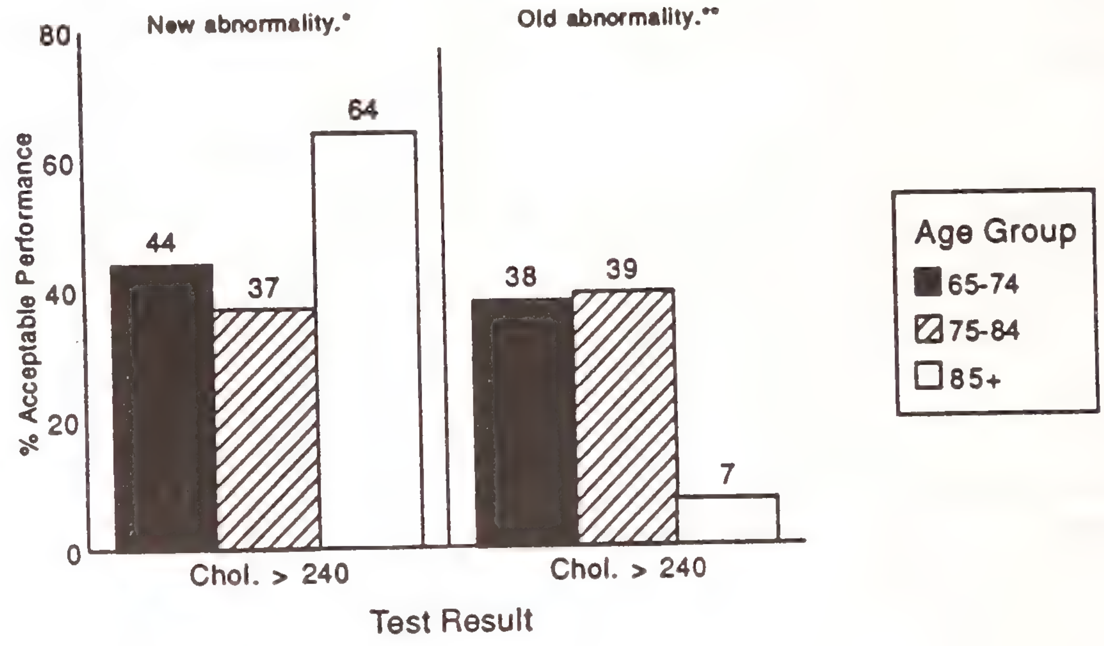
Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.6	66%
	Dose Documented	2.6	83%
	Frequency Documented	2.6	78%
Drug Indications	Drug prescribed appropriately for: Angina, CHF	1.0	43%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Orthostatic hypotension	2.6	98%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Transdermal nitrates not to be used continuously for 24 hrs. **Risk/benefit:** None	2.6	93%
Drug Monitoring	Overall Monitoring Score	0.6	35%
	Old Drugs:		
	If CHF - weight and lung exam every 6 mos	0.1	33%
	New Drugs:		
	If angina - educate patient re possible exacerbation.	0.4	25%
	If CHF - weight and lung exam within 1 mo start of therapy	0.0	100%

CHOLESTEROL

The table on the opposite page displays the results of the review of those patients with abnormal cholesterol tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with abnormal cholesterol levels.

Response to Abnormal Cholesterol Levels
By Age Group



* New abn: n=121 (65-74), n=87 (75-84), n=11 (85+)
**Old abn: n=185 (65-74), n=110 (75-84), n=15 (85+)

CLINICAL ITEM REPORT - Tests

Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

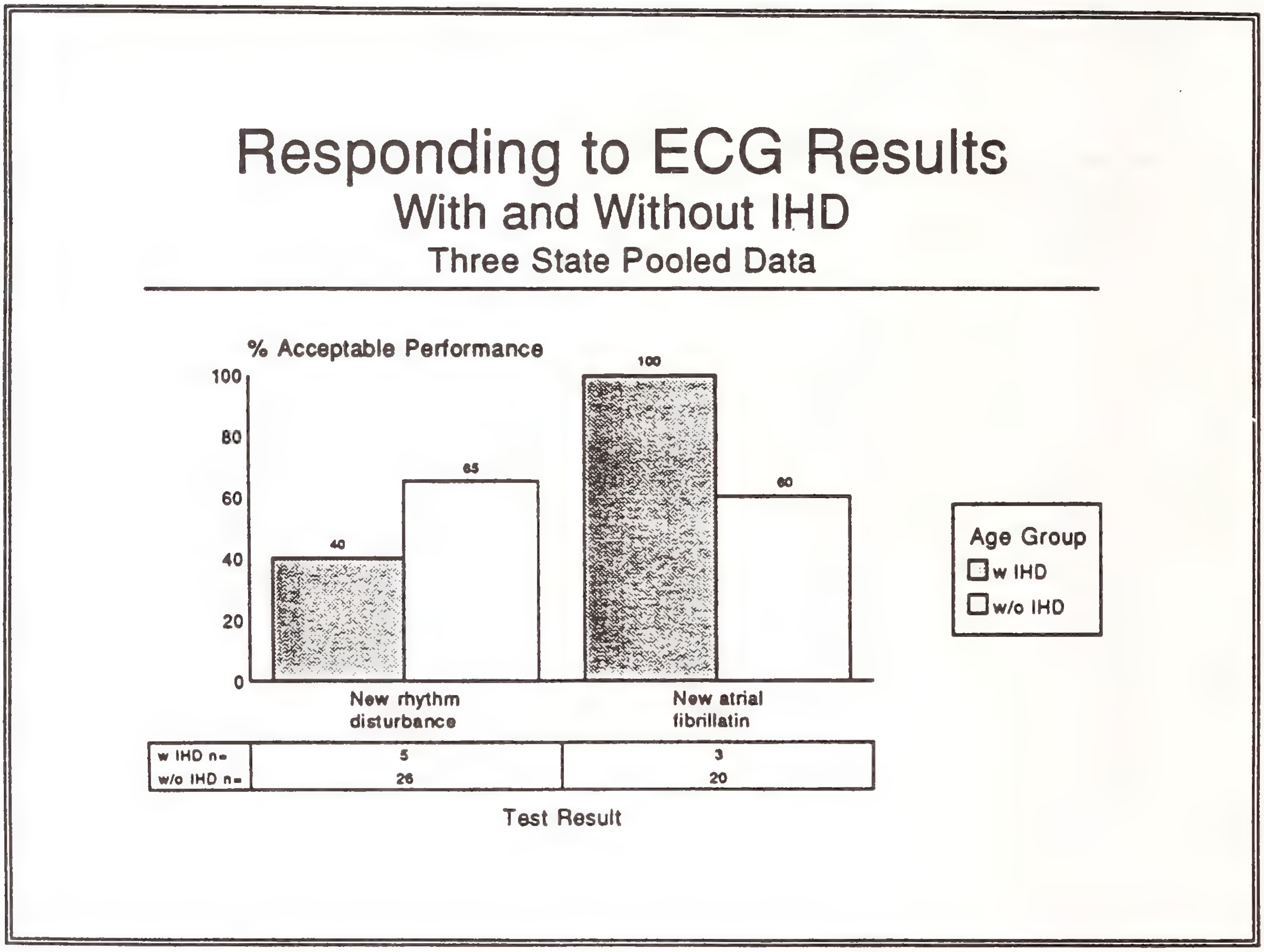
CODE: 03 CHOLESTEROL - TOTAL CHOLESTEROL >240

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions:** Once q. 2 yrs - Family hypercholesterolemia, IHD, HTN, diuretics (incr.LDL), B-blockers (decr.HDL), diabetes	4.0	90%
Test Urgent Response	NA		
Test Response	Overall score:	3.3	30%
	Abnormal test results appropriately followed up:		
	Total cholesterol >240 and new abnorm: Within 3 mos retest, and if still ≥240, begin diet advice. Retest within 6 mos.	1.3	44%
	Total cholesterol >240 and old abnorm: Within 3 mos check fasting HDL, total chol. and triglycerides, bl. glu., and thyroid func. Retest within 4 mos. If ≤75 yrs and if value remains high, check diet.	2.0	23%

ECG

The table on the opposite page displays the results of the review of those patients with abnormal ECG tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with abnormal ECG tests.



CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 10 ECG

Indicator	Criterion	Peer Group Rates: Average Number of Patients per Physician	Peer Group Rates: Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions:** Not routine except with DM, HTN, CHF, cor. artery disease, intrinsic renal disease, valv. heart disease, arrhythmias, metabolic derangements, HTN, DM, PVD, preop eval., tricyclic antidepressants, CHF.	3.2	83%
Test Urgent Response	Patient referred to hospital or ER for lab values: On ECG, new findings of acute ischemic changes, 2nd or 3rd deg. heart block, severe metabolic derangements, multifocal ventricular premature beats, or ventricular tachycardia.	0.2	100%
Test Response	Overall score:	0.2	50%
	Abnormal test results appropriately followed up:		
	If new onset rhythm dist.: Within 1 wk, if on drugs that affect rhythm or serum pot., then decr. or remove. Do Holter monitor or note why not needed. If Holter conf. abnorm., start treatment or req. consult or refer to cardiology within 1 wk.	0.1	50%
	If new atrial fib.: Within 1 day, if on drugs that affect rhythm or serum pot., decr. or remove. Check thyroid, heart, temperature, and lung exam. If fib. persists more than 2 days, start anticoagulants and document decision re attempt to convert to normal sinus rhythm or req. consult or referral.	0.1	50%
	If new metabolic changes on ECG: Within 2 days check serum pot. or serum calcium. If on meds that affect serum pot. and serum calcium, decr. or disc. Treat and retest in 1 wk.	0.0	%

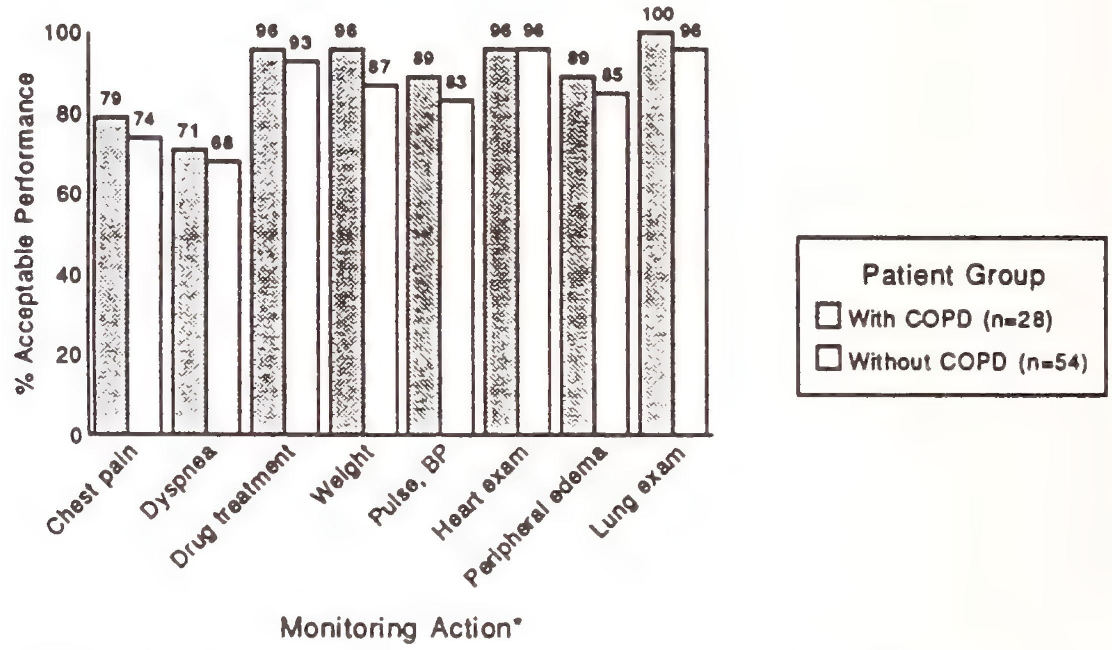
CONGESTIVE HEART FAILURE

CONGESTIVE HEART FAILURE

The table on the opposite page displays the results of the review of your congestive heart failure patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with congestive heart failure.

Monitoring Congestive Heart Failure
With and Without co-morbid COPD



*All monitoring actions were to be performed at least once in the two year review period

CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

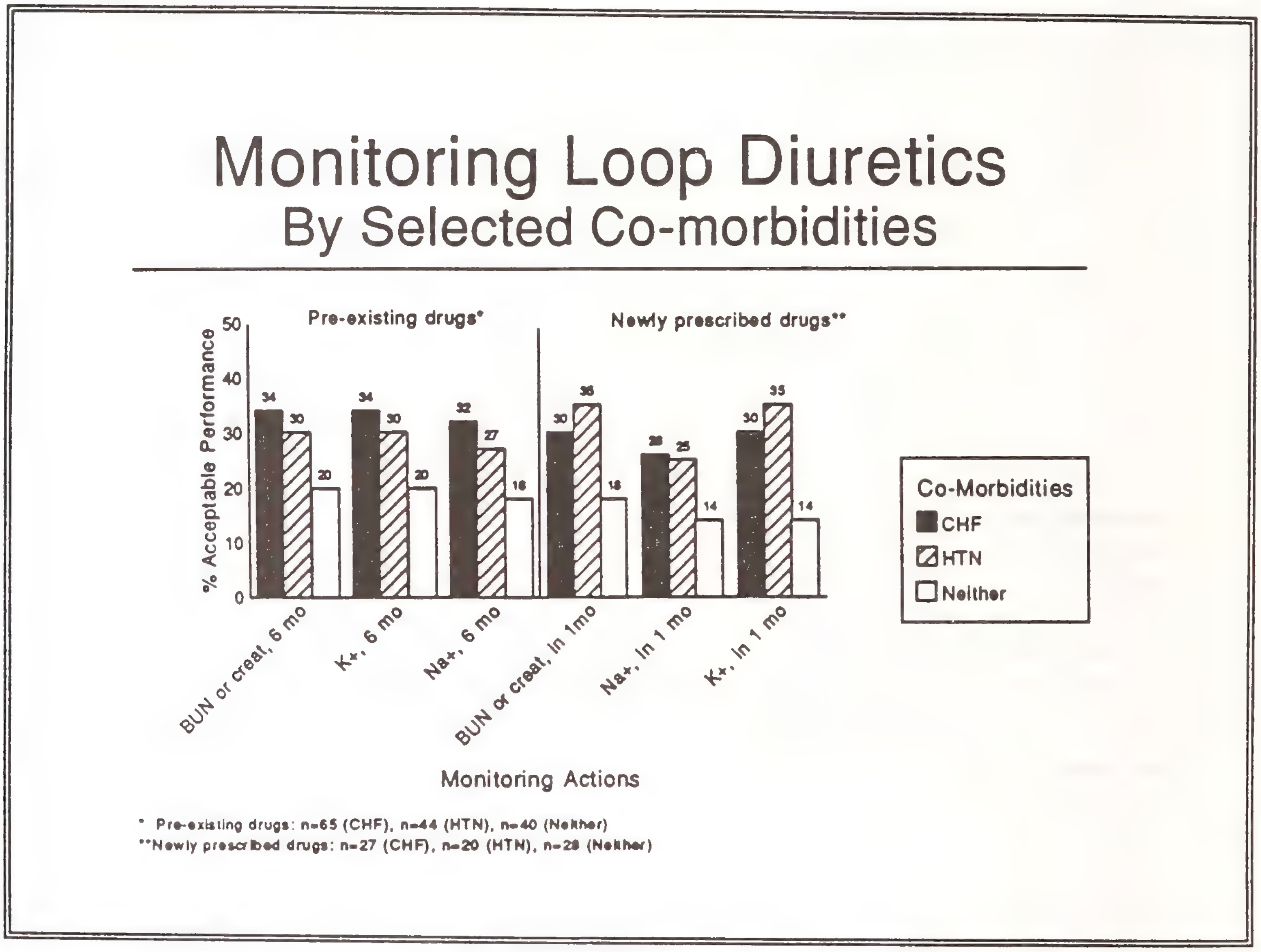
Peer Group: General Practice

CODE: 06 **CONGESTIVE HEART FAILURE**

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	0.7	89%
	Chest pain - once	0.7	89%
	Dyspnea, decr. tolerance of exertion - once	0.7	78%
	Document drug treatment - once	0.7	100%
	Weight (or history of weight gain) - once	0.7	89%
	Pulse, BP - once	0.7	89%
	Heart exam - once	0.7	89%
	Peripheral edema	0.7	89%
	Lung exam	0.7	89%
Evidence for a New Diagnosis	S3, pulm. rales, raised JVP and/or pedal edema, enlarged heart OR left ventricular ejection fraction <40% OR signs of CHF on chest x-ray	1.0	38%
Search for Treatable Causes	HTN AND valvular heart disease AND AMI AND drug role AND anemia AND statement re thyroid disease	0.9	75%

The table on the opposite page displays the results of the review of those patients on loop diuretics, with comparisons to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the loop diuretic criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking loop diuretics.



* Pre-existing drugs: n=65 (CHF), n=44 (HTN), n=40 (Neither)

**Newly prescribed drugs: n=27 (CHF), n=20 (HTN), n=28 (Neither)

Drugs within this class

Generic	Trade
Bumetanide	Bumex
Ethacrynic Acid	Edecrin
Furosemide	Lasix

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

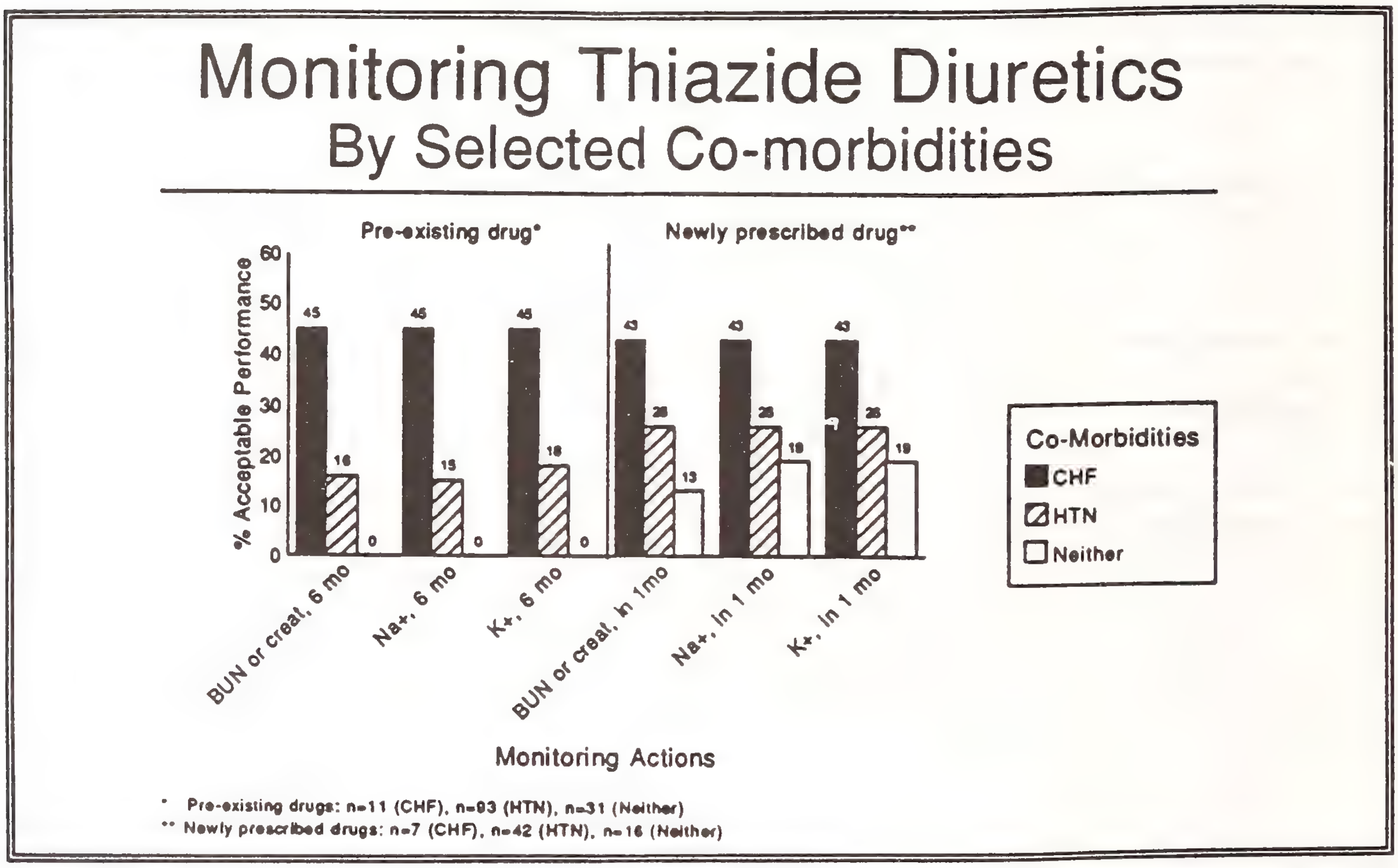
Peer Group: General Practice

CODE: 08 DIURETIC - LOOP

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.6	94%
	Dose Documented	2.6	94%
	Frequency Documented	2.6	99%
Drug Indications	Drug prescribed appropriately for: Edema/pulm. edema, HTN, hypercalcemia	1.1	93%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Risk/benefit:** BUN >50 or creat. >2.5	2.6	98%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Lithium **Risk/benefit:** Long-term, high-dose corticosteroid	2.6	100%
Drug Monitoring	Overall Monitoring Score	2.1	7%
	Old Drugs:		
	BUN or creat. - q. 6 mos	1.1	7%
	K+ q. - 6 mos	1.1	0%
	Na+ q. - 6 mos	1.1	0%
	If diabetes - bl. glucose q. 3 mos	0.4	17%
	If on lithium - lithium levels q. 3 mos	0.0	%
	New Drugs:		
	BUN or creat. - within 1 mo start of therapy	1.0	8%
	Na+ - within 1 mo start of therapy	1.0	4%
	K+ - within 1 mo start of therapy	1.0	8%
	If diabetes -bl.glu.within 3 mos start therapy	0.2	50%
	If on lithium - lithium levels within 3 mos start of therapy	0.0	%

The table on the opposite page displays the results of the review of those patients on thiazide diuretics with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the thiazide diuretic criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking a thiazide diuretic.



Monitoring Thiazide Diuretics
By Selected Co-morbidities

* Pre-existing drugs: n=11 (CHF), n=93 (HTN), n=31 (Neither)

** Newly prescribed drugs: n=7 (CHF), n=42 (HTN), n=16 (Neither)

Drugs within this class

Generic	Trade
Bendroflumethiazide	Naturetin
Benzthiazide	Exna, Hydrex
Chlorothiazide	Diuril
Chlorthalidone	Hygroton, Thalitone
Cyclothiazide	Anhydron, Fluidil
Hydrochlorothiazide	Esidrix, Hydrodiuril, Oretic
Hydroflumethiazide	Diucardin, Saluron
Indapamide	Lozol
Methyclothiazide	Aquatensen, Enduron
Methyclothiazide + Enduronyl	Enduronyl
Metolazone	Diulo, Zaroxolyn
Polythiazide	Renese
Quinethazone	Hydromox
Trichlormethiazide	Metahydrin, Naqua

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 10

DIURETIC - THIAZIDE-TYPE

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	3.0	90%
	Dose Documented	3.0	97%
	Frequency Documented	3.0	90%
Drug Indications	Drug prescribed appropriately for: Edema/pulm. edema, HTN, diabetes insipidus, renal calculi	0.9	94%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Renal imp. (BUN>50 or creat.>2.5), hypercalcemia (cal.>12). **Risk/benefit:** Gout, impaired hepatic function, systemic lupus erythematosus	3.0	97%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Oral antidiab. agents, insulin, long-term high-dose corticosteroid therapy	3.0	88%
Drug Monitoring	Overall Monitoring Score	2.6	22%
	Old Drugs:		
	BUN or creat. - q. 6 mos	1.7	7%
	Na+ - q. 6 mos	1.7	7%
	K+ - q. 6 mos	1.7	7%
	If impaired liver function - K+ q. 3 mos	0.0	%
	If on lithium - lithium levels q. 3 mos	0.0	%
	If diabetes - bl. glucose q. 3 mos	0.5	56%
	If on long-term corticosteroid - K+ q.3 mos	0.0	0%

(cont'd)

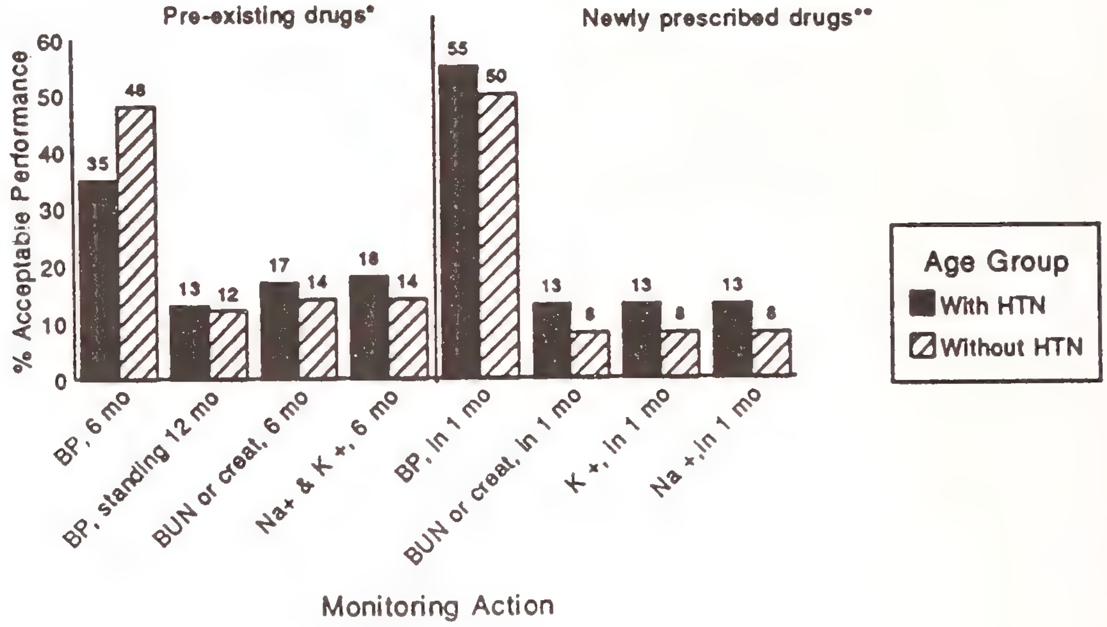
Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	New Drugs:		
	BUN or creat. - within 1 mo start of therapy	0.8	20%
	Na+ - within 1 mo	0.8	20%
	K+ - within 1 mo	0.8	20%
	If diabetes - bl. glucose within 3 mos start of therapy	0.1	100%
	If on lithium - lithium levels within 3 mos start of therapy	0.0	%
	If on long-term corticosteroid - serum pot. within 3 mos start of therapy	0.0	%
	If impaired liver function - K+ and Na+ within 3 mos start of therapy	0.0	0%

The table on the opposite page displays the results of the review of those patients on combination diuretic therapy with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking this combination drug.

Monitoring a Combination Diuretic

Patients With and Without HTN



* Pre-existing drugs: n=66 (HTN), n=47 (w/o HTN)

** Newly prescribed drugs: n=29 (HTN), n=13 (w/o HTN)

Drugs within this class

Generic	**Trade**
Hydrochlorothiazide + Amiloride	Moduretic
Hydrochlorothiazide + Spironolactone	Aldactazide
Hydrochlorothiazide + Triamterene	Dyazide, Maxizide

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 18 COMBINATION: DIURETIC (THIAZIDE-TYPE) + POTASSIUM-SPARING-TYPE

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.6	85%
	Dose Documented	2.6	85%
	Frequency Documented	2.6	86%
Drug Indications	Drug prescribed appropriately for: Edema/pulm. edema, HTN, diabetes insipidus, renal calculi, CHF	0.5	72%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Renal impairment (BUN >50 or creat. >2.5) **Risk/benefit:** Hypercalcemia, hyperkalemia, gout, impaired hepatic function, systemic lupus erythematosus	2.6	98%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Oral potassium supp., ACE inhibitors **Risk/benefit:** Oral anti-diabetic agents, insulin, long-term high-dose corticosteroid therapy	2.6	78%
Drug Monitoring	Overall Monitoring Score	2.2	32%
	Old Drugs:		
	BP - q. 6 mos, regular	1.8	57%
	BP - q. 12 mos, standing	1.6	22%
	BUN or creat. - q. 6 mos	1.8	29%
	K+ and Na+ - q. 6 mos	1.8	32%
	If on lithium - lithium levels q. 3 mos	0.0	%
	If diabetes - bl. glucose q. 3 mos	0.3	25%

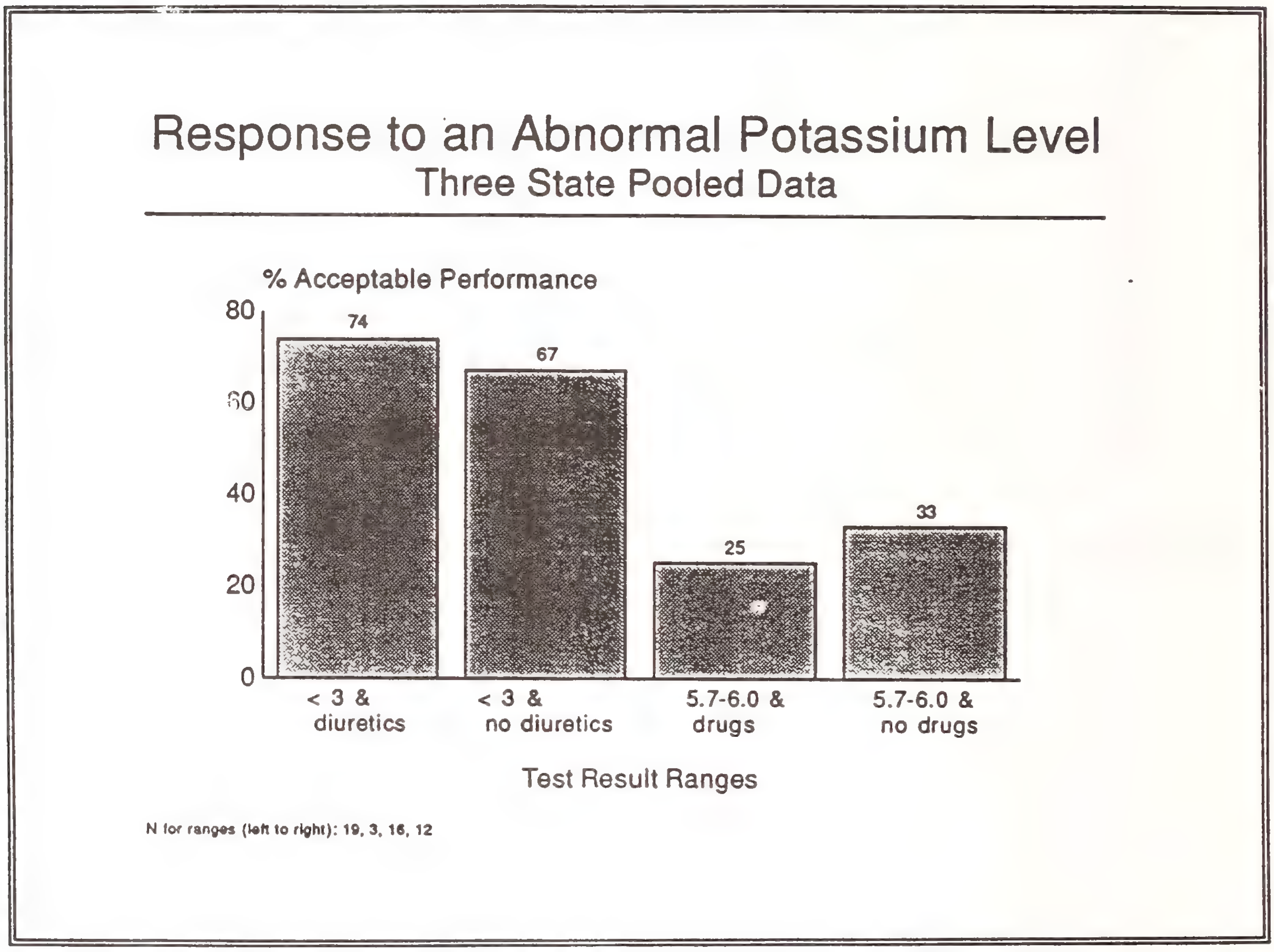
(cont'd)

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	If on steroids - K+ q. 3 mos	0.0	%
	If impaired liver function - K+ and Na+ q. 3 mos	0.0	%
	New Drugs:		
	BP - within 1 mo start of therapy	0.4	44%
	BUN or creat. - within 1 mo start of therapy	0.4	13%
	K+ - within 1 mo	0.4	13%
	Na+ - within 1 mo	0.4	13%
	If diabetes - bl. glucose within 3 mos start of therapy	0.1	0%
	If on corticosteroid - K+ within 3 mos start of therapy	0.0	%
	If on lithium - lithium levels within 3 mos start of therapy	0.0	%
	If impaired liver function - K+ and Na+ within 3 mos start of therapy	0.0	%

POTASSIUM

The table on the opposite page displays the results of the review of those patients with abnormal potassium tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows three state (Maryland, Iowa, Alabama) combined data for patients with abnormal serum potassium levels.



Response to an Abnormal Potassium Level
Three State Pooled Data

N for ranges (left to right): 19, 3, 16, 12

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

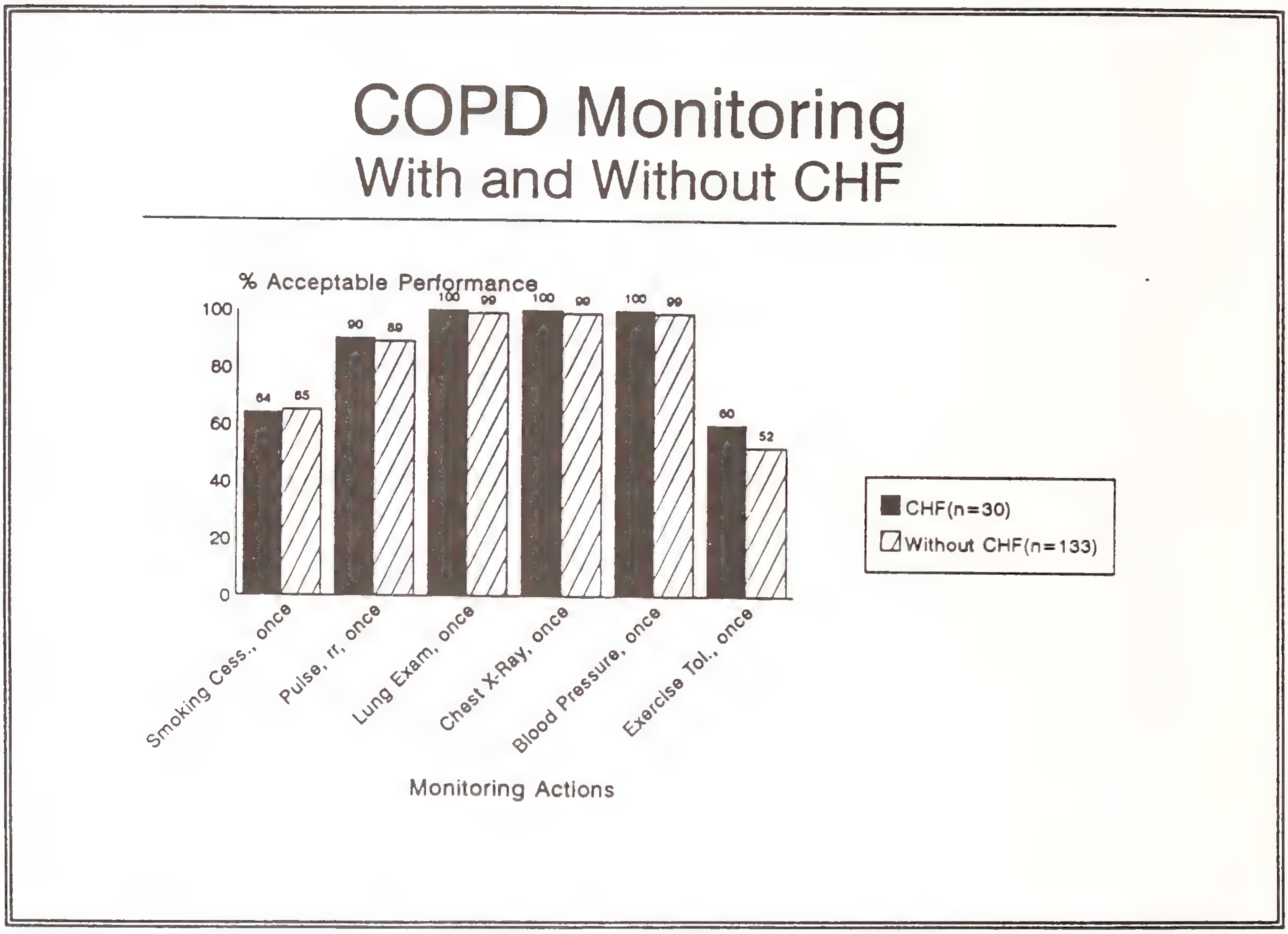
CODE: 04 POTASSIUM (SERUM LEVEL) K+ <3 OR K+ >5.7

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions:** Diuretic therapy, digoxin therapy, pot. therapy, heart disease, renal disease, hyperaldosteronism, DM, ACE inh. therapy, corticosteroid therapy, dizziness, muscle cramps, myalgias, polyuria, ECG changes suggestive of hyperkalemia, chron. fatigue	1.0	100%
Test Urgent Response	Patient referred to hospital or ER for lab values: If serum pot. >6.0 and ECG changes, if <2.5 and ECG changes	0.0	%
Test Response	Overall score:	1.0	50%
	Abnormal test results appropriately followed up:		
	Serum pot. <3.0 on diuretics (except pot.-sparing) or on long-term, high-dose corticosteroids: Within 1 wk decr. or disc. hypokalemia-inducing drugs OR add oral pot. repl. therapy, AND/OR change to pot.-sparing diuretics. Retest within 1 mo.	0.0	%
	Serum pot. <3.0 not on diuretics or hypokalemia-inducing drugs: Within 1 wk check history of chron. diarrhea, enema use, laxative abuse, chron. alcohol. Check serum electrolytes, urine pot., and chloride. Review results within 1 wk.	0.5	0%
	Serum pot. 5.7-6.0 on ACE inh., NSAIDs, pot.-sparing diuretics, or pot. supplement therapy: Within 2 days decr. or disc. drugs if appropriate. Retest within 2 wks.	0.5	100%
	Serum pot. 5.7-6.0 not on ACE inh., NSAIDs, pot.-sparing diuretics, or pot. supplement therapy: Within 1 wk repeat serum electrolytes and BUN/creat. Review results within 1 wk.	0.0	0.0%

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

The table on the opposite page displays the results of the review of your COPD patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with chronic obstructive pulmonary disease.



CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

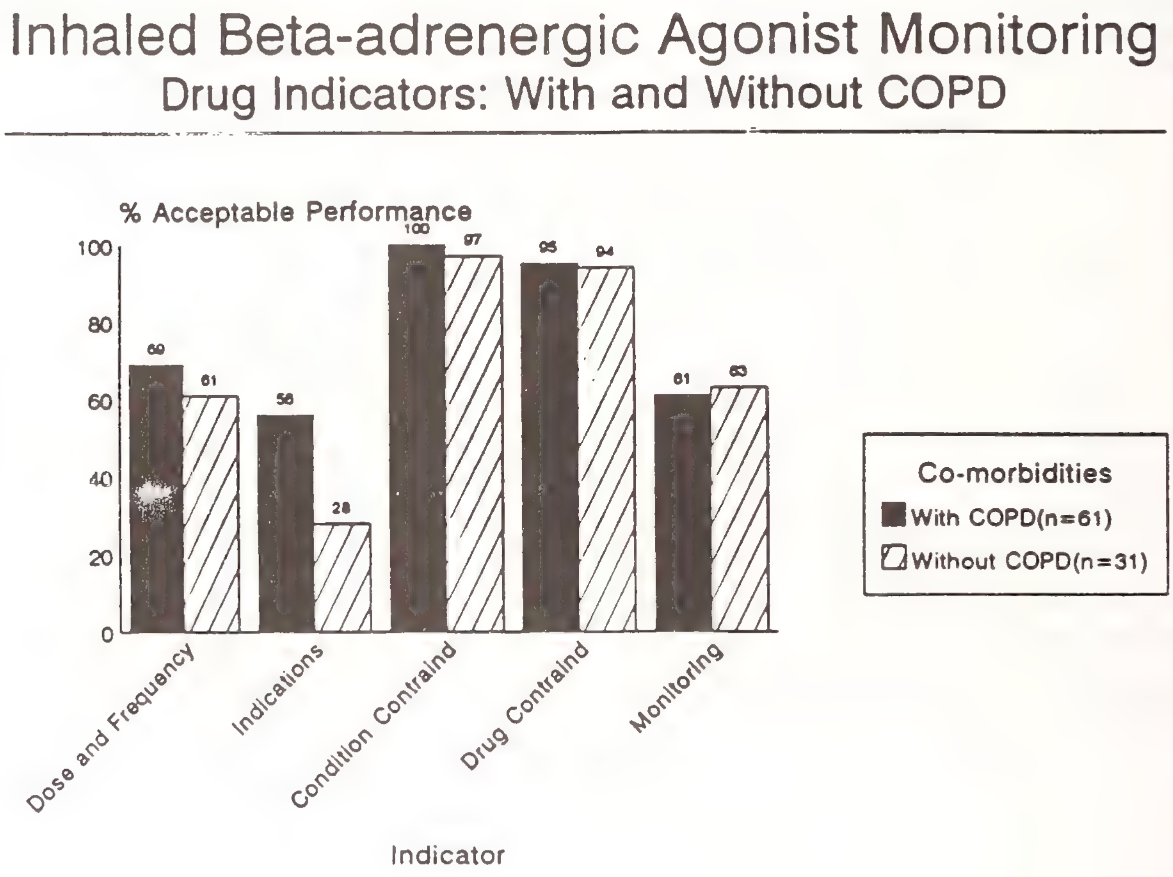
CODE: 04 CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Indicator	Criterion	Peer Group Rates Average Number of Patients per Physician	Peer Group Rates Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	2.0	66%
	Check for compliance with smoking cessation (if patient is a smoker) - once	1.5	42%
	Pulse, respiratory rate - once	2.0	74%
	Lung exam - once	2.0	92%
	Chest x-ray - once	2.0	57%
	BP - once	2.0	94%
	Tolerance of exertion - once	2.0	32%
Evidence for a New Diagnosis	Productive cough lasting 3 mos for 2 consecutive yrs AND dyspnea on exertion with or w/o wheezing OR decr. forced expiratory volume (1 second)	0.9	16%
Search for Treatable Causes	Smoking or environmental precipitant	0.8	44%

INHALED BETA-ADRENERGIC AGONIST

The table on the opposite page displays the results of the review of those patients using beta-adrenergic agonist inhalers, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients using beta-adrenergic agonist inhalers.



Drugs within this class

Generic	Trade
Albuterol	Proventil, Ventolin
Bitolterol	Tornalate
Epinephrine	Bronkaid Mist, Primatene Mist
Ethylnorepinephrine	Bronkephrine
Isoetharine	Bronkosol, Bronkometer
Isoproterenol	Aerolone, Isuprel
Isoproterenol + Phenylephrine	Duo-Medihaler
Metaproterenol	Alupent, Metaprel
Pirbuterol	Maxair
Racepinephrine	Asthma Nephrin
Terbutaline	Brethaire, Brethine, Bricanyl

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

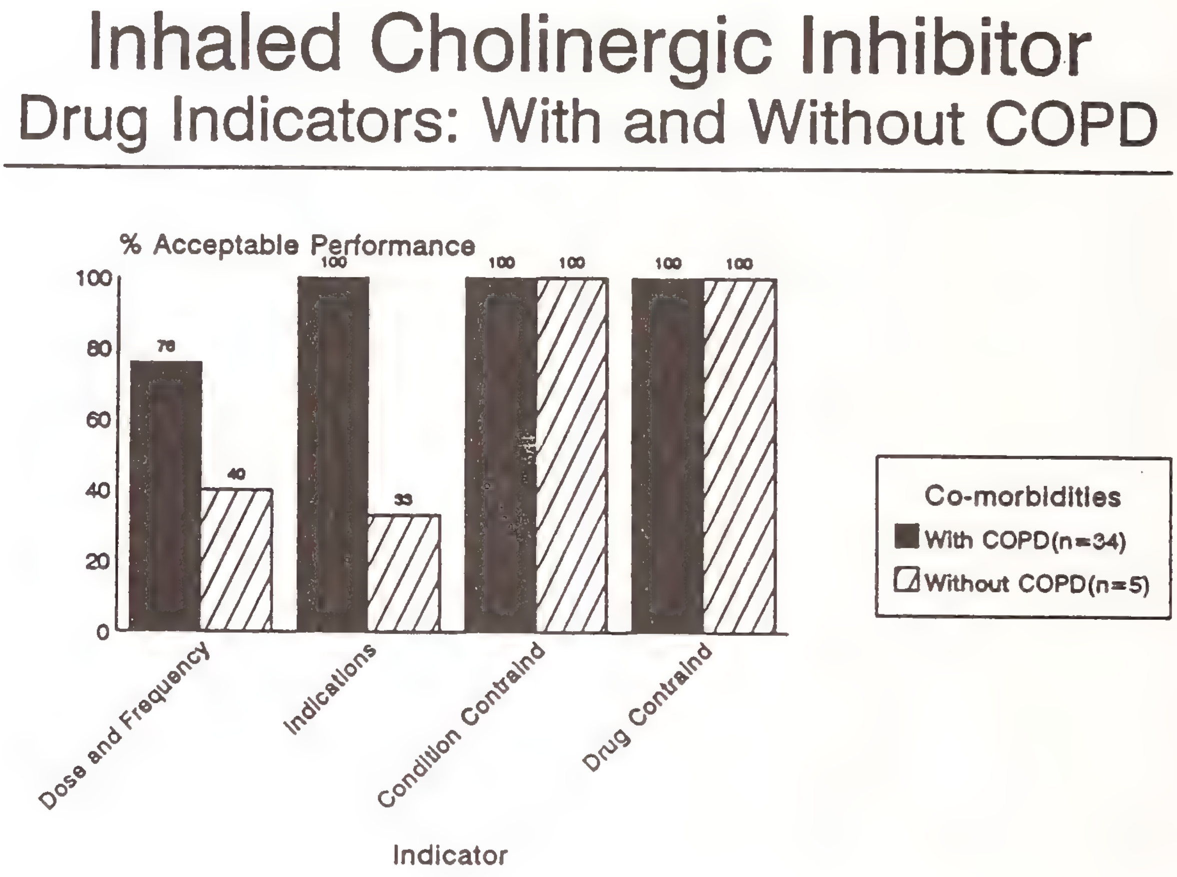
Peer Group: General Practice

CODE: 51 BETA-ADRENERGIC AGONIST (ADRENERGIC BRONCHODILATOR) - INHALED

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1.2	68%
	Dose Documented	1.2	68%
	Frequency Documented	1.2	77%
Drug Indications	Drug prescribed appropriately for: Bronch. asthma, bronchiectasis, chron. bronch., and emphysema	0.4	50%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Coronary artery disease, HTN, hyperthyroidism, cerebral insufficiency, chron. lung disease **Risk/benefit:** Patients >70 yrs	1.2	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Monoamine oxidase inh., guanethidine **Risk/benefit:** Beta-adrenergic blockers	1.2	91%
Drug Monitoring	Overall Monitoring Score	1.0	44%
	Old Drugs:		
	Lung exam - q. 6 mos	0.7	36%
	New Drugs:		
	Lung exam - within 1 mo start of therapy	0.3	67%

The table on the opposite page displays the results of the review of those patients taking a cholinergic inhibitor, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients on a cholinergic inhibitor.



Drugs within this class

Generic	Trade
Ipratropium	Atrovent

CLINICAL ITEM REPORT - Drugs

Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 52

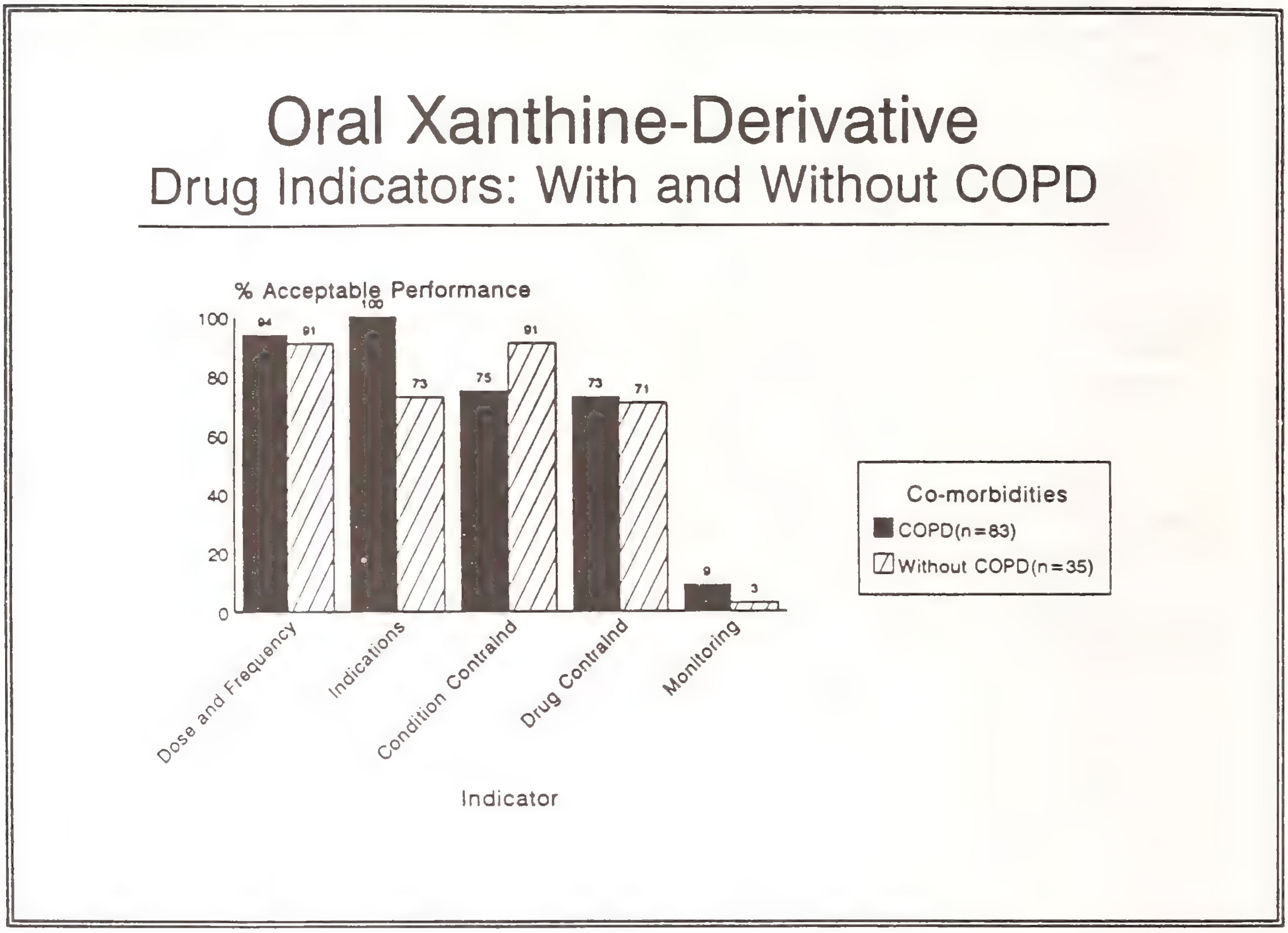
CHOLINERGIC INHIBITOR (INHALATION-LOCAL)

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1.2	58%
	Dose Documented	1.2	92%
	Frequency Documented	1.2	67%
Drug Indications	Drug prescribed appropriately for: Emphysema, COPD, bronch. asthma only if beta-adrenergics and xanthines fail	0.8	88%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Glaucoma, urinary retention	1.2	100%
Drug Contraindications	NA		
Drug Monitoring	NA		

ORAL XANTHINE DERIVATIVE

The table on the opposite page displays the results of the review of those patients on an oral xanthine derivative with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients on an oral xanthine derivative.



Drugs within this class

Generic	Trade
Aminophylline	Somophyllin
Dyphylline	Dilor, Dyflex, Lufyllin
Oxtriphylline	Choledyl
Theophylline	Aerolate, Bronkodyl, Duraphyl, Elixophyllin, Quibro, Slo-Bid, Slo-Phyllin, Somophyllin-T, Sustaire, Theo-24, Theobid, Theochron, Theo-Dur, Theolair, Uniphyl
Theophylline + Guaifenesin	Asbron G, Eliophyllin-GG, Quibron, Slo-Phyllin GG, Theolair-Plus, Theolate

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

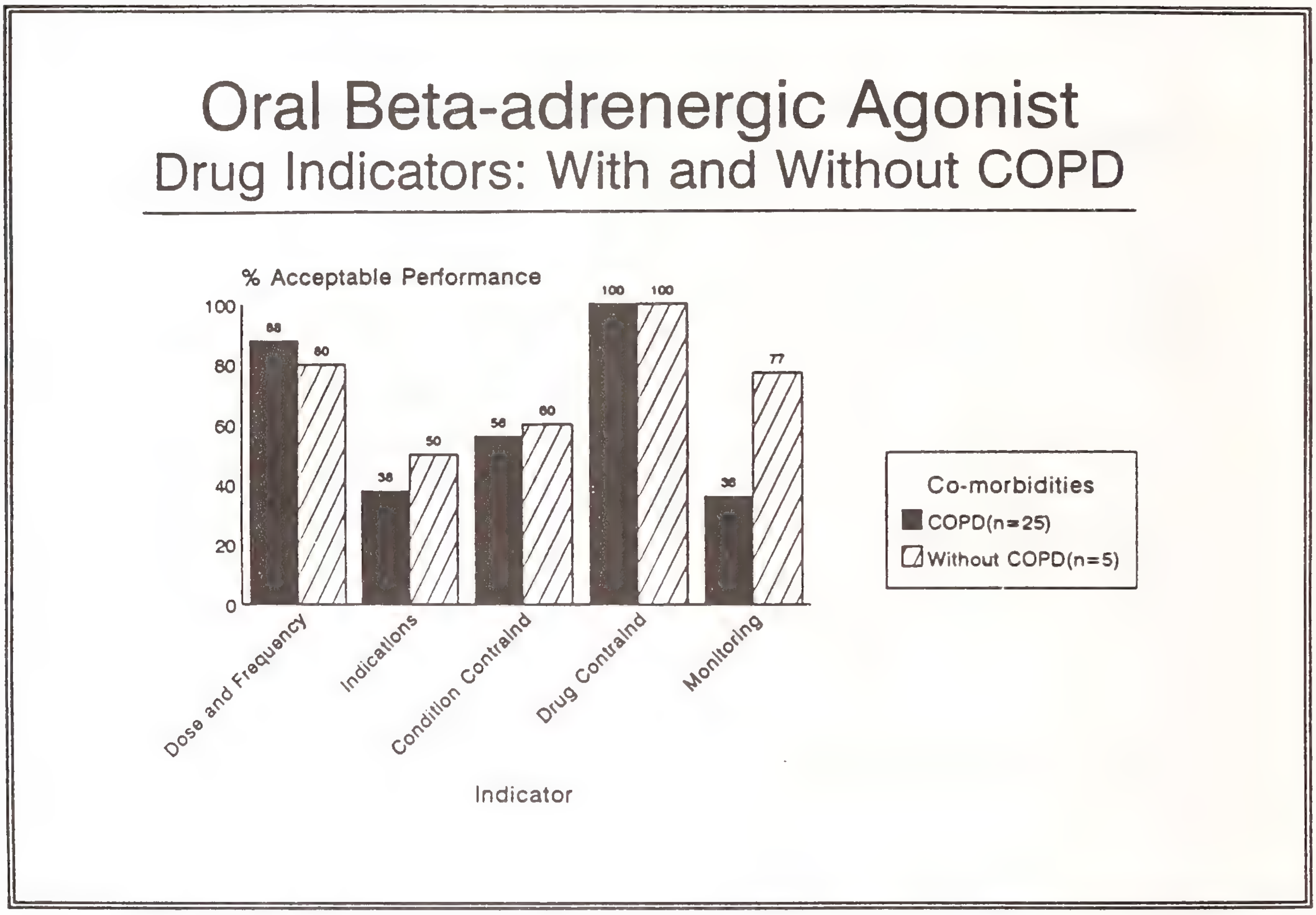
CODE: 53 XANTHINE-DERIVATIVE - ORAL

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.0	93%
	Dose Documented	2.0	98%
	Frequency Documented	2.0	93%
Drug Indications	Drug prescribed appropriately for: Bronch. asthma, pulm. emphysema, chron. bronchitis	0.9	87%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Gastritis or peptic ulcer, CHF, liver disease, prostatic hypertrophy, alcoholism	2.0	76%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** On other xanthine derivative **Risk/benefit:** Cimetidine, erythromycin, beta blockers, furosemide, propanolol	2.0	79%
Drug Monitoring	Overall Monitoring Score	1.9	5%
	Old Drugs:		
	Serum theophylline - q. 3 mos	1.0	7%
	New Drugs:		
	Serum theophylline - within 1 wk start of therapy	0.9	0%

ORAL BETA-ADRENERGIC AGONIST

The table on the opposite page displays the results of the review of those patients taking an oral beta-adrenergic agonist, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking an oral beta-adrenergic agonist.



Drugs within this class

Generic	Trade
Albuterol	Proventil, Ventolin
Ephedrine	Vantronol
Isoproterenol (sublingual)	Aerolone, Isuprel
Metaproterenol	Alupent, Metaprel
Terbutaline	Brethaire, Brethine, Bricanyl

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 55 **BETA-ADRENERGIC AGONIST (ORAL)**

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1.0	86%
	Dose Documented	1.0	86%
	Frequency Documented	1.0	100%
Drug Indications	Drug prescribed appropriately for: Bronch. asthma in patients who cannot use metered inhaler correctly, bronchiectasis, ephedrine not in patients >65, isoproterenol sublingual not in patients >65	0.9	33%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** CAD, HTN, hyperthyroidism, angina, arrhythmia	1.0	57%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** MAOs, ephedrine, guanethidine-ephedrine **Risk/benefit:** Beta-adrenergic blockers	1.0	100%
Drug Monitoring	Overall Monitoring Score	1.0	38%
	Old Drugs:		
	Lung exam - q. 6 mos	0.1	100%
	Pulse - q. 6 mos	0.1	100%
	BP - q. 6 mos, alternating standing and regular	0.1	0%

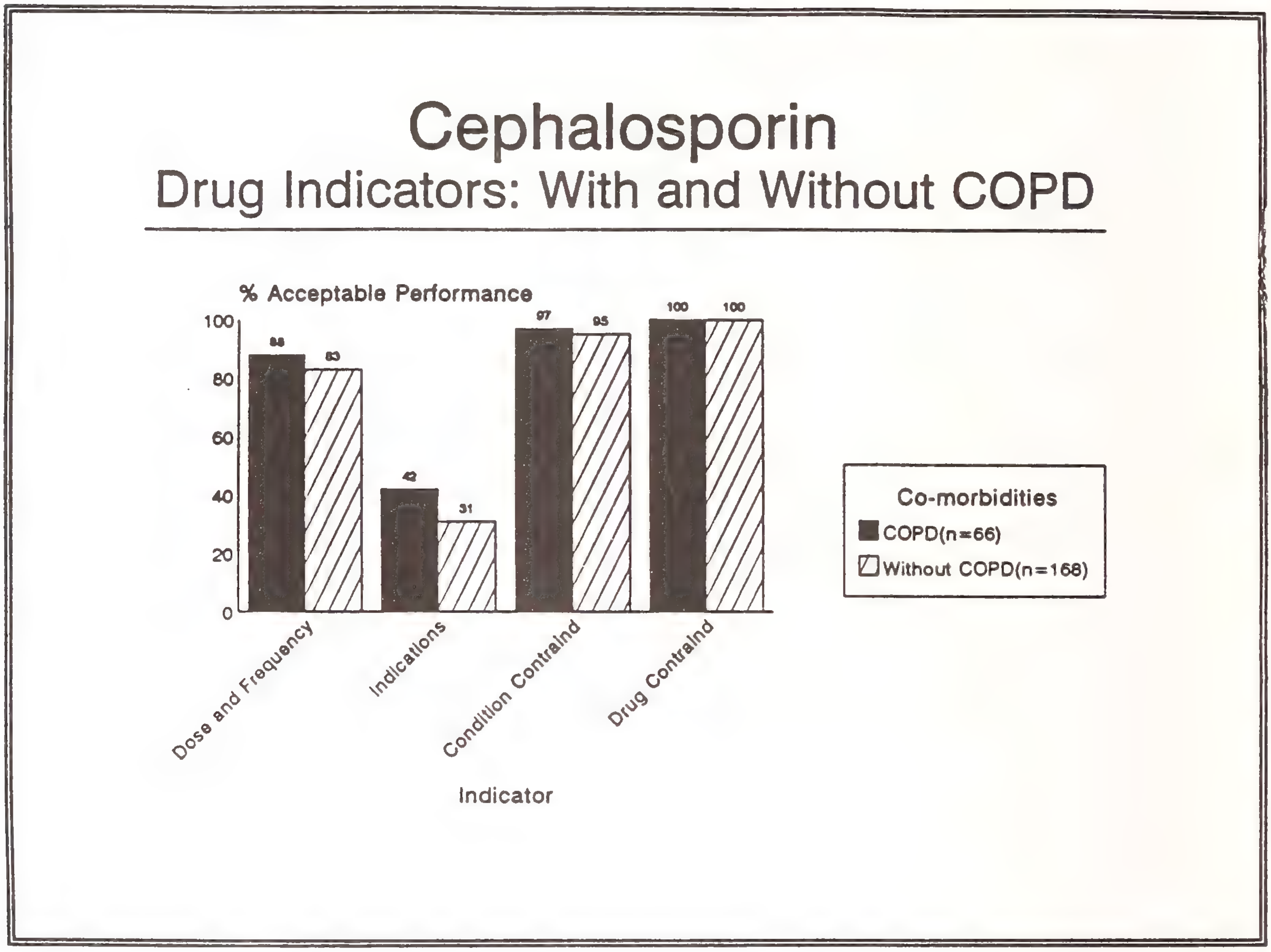
(cont'd)

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	New Drugs:		
	Lung exam - within 1 mo	0.9	33%
	Pulse - within 1 mo	0.9	33%
	BP - within 1 mo	0.9	33%

CEPHALOSPORIN

The table on the opposite page displays the results of the review of those patients taking a cephalosporin, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking a cephalosporin.



Drugs within this class

Generic	Trade
First Generation:	
Cefadroxil	Duricef, Ultracef
Cephalexin	Keflex
Cephadrine	Anspor, Velosef
Second Generation:	
Cefaclor	Ceclor
Cefuroxime	Ceftin
Third Generation:	
Cefixime	Suprax

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

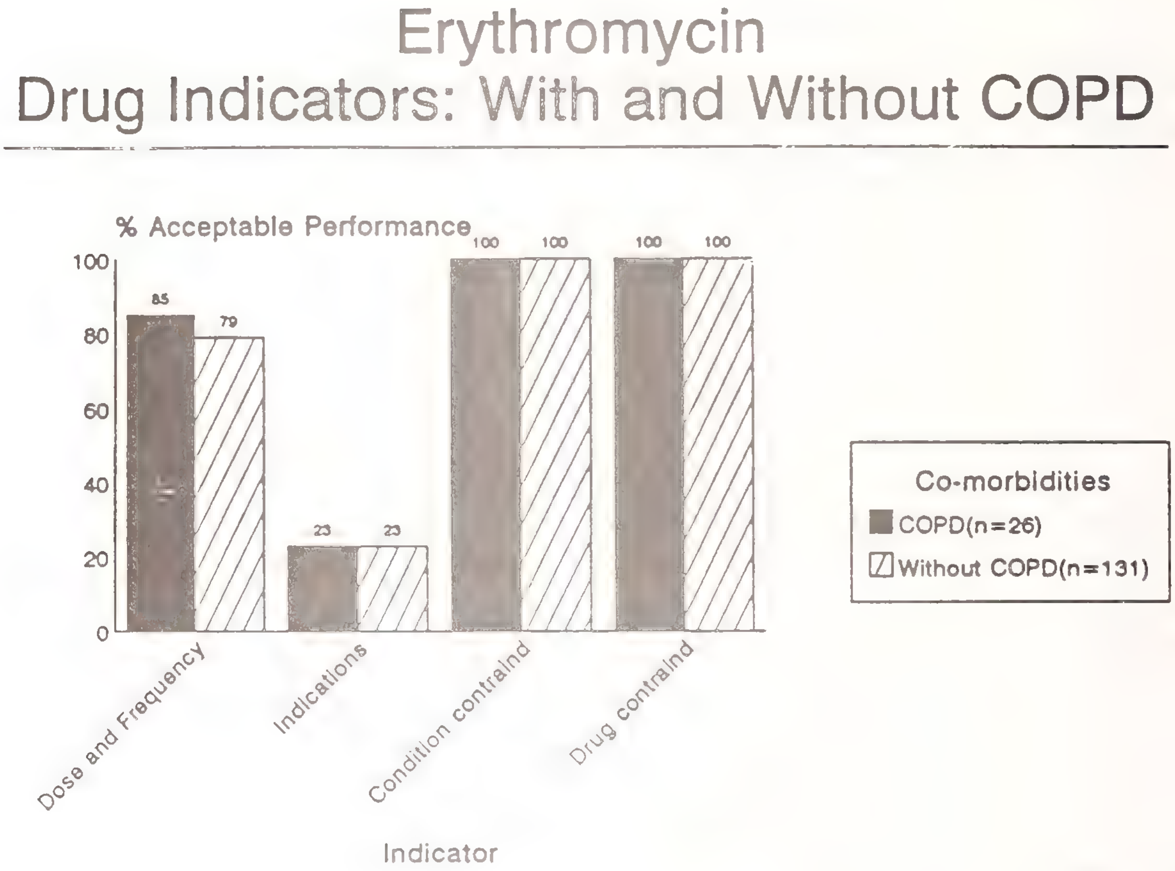
CODE: 61 **CEPHALOSPORIN**

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.4	79%
	Dose Documented	2.4	91%
	Frequency Documented	2.4	79%
Drug Indications	Drug prescribed appropriately for: ***First Generation:** Lower resp. tract infec., urinary tract infec., skin/soft tissue infec., bone infec. **Second Generation:** *Lower resp. tract infec. *Urinary tract infec. *Skin/soft tissue infec. *Bone infec. Otitis media, urinary tract infec., gonorrhea-cefuroxime **Third Generation:** Urinary tract infec.	2.2	15%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Previous allergic reaction to cephalosporin **Risk/benefit:** Colitis, penicillin allergy, BUN >50 or creat. >2.5.	2.4	95%
Drug Contraindications	NA		
Drug Monitoring	NA		

* Only if organism resistant or unresponsive to other anti-infectives or patient allergic to penicillins or sulfonamides or trimethoprim-sulfamethoxazole.

The table on the opposite page displays the results of the review of those patients on erythromycin with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking erythromycin.



Drugs within this class

Generic	Trade
Erythromycin	Eryc, E-Mycin, Ilotycin
Erythromycin Estolate	Ilosone
Erythromycin Ethylsuccinate	EryPed, Pediamycin, Wyamycin E, EES
Erythromycin Stearate	Erythrocin, Erypar, Wyamycin S

CLINICAL ITEM REPORT - Drug
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

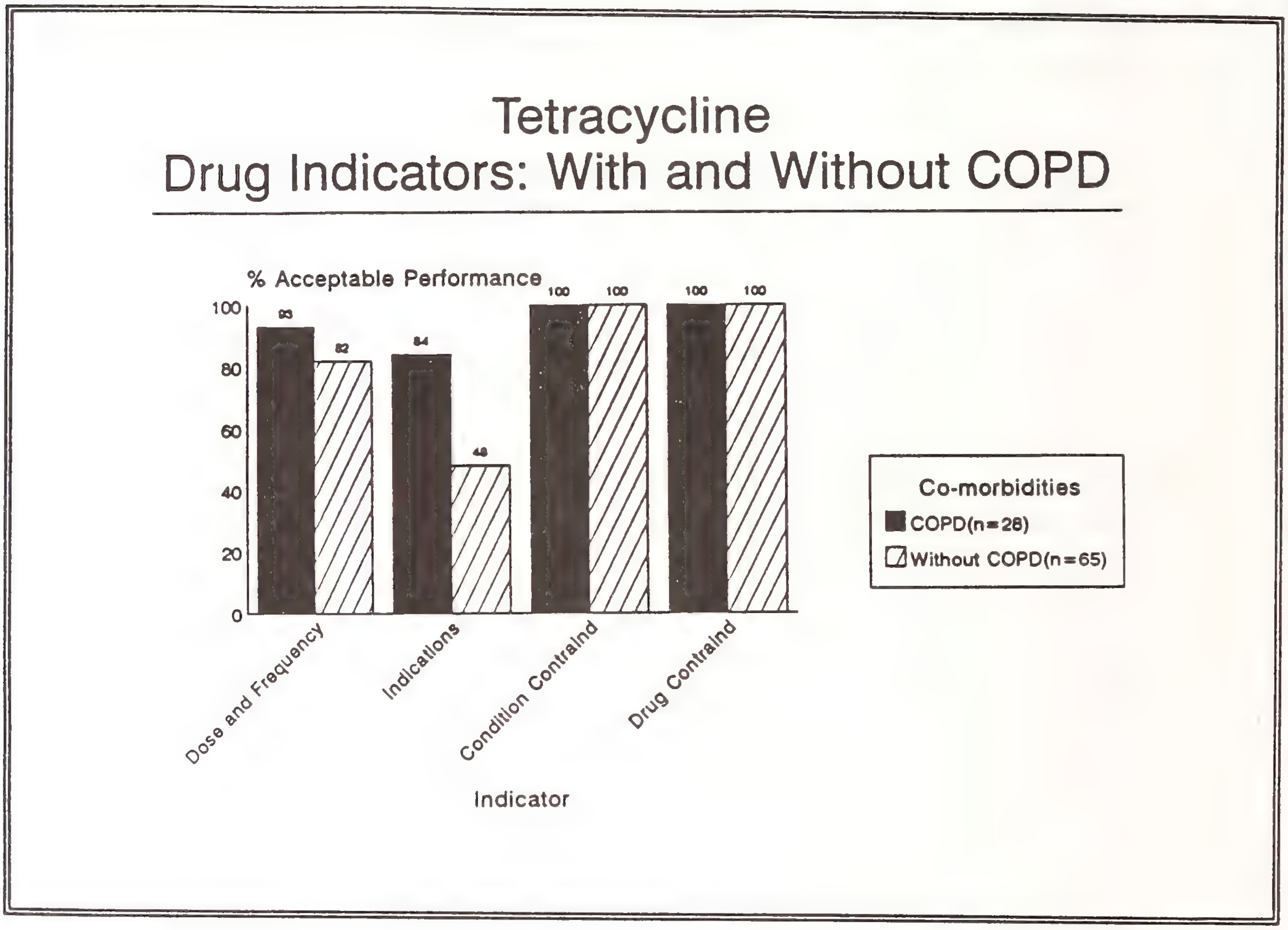
CODE: 62 **ERYTHROMYCIN**

Indicator	Criterion	Peer Group Rates Average Number of Patients per Physician	Peer Group Rates Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.6	78%
	Dose Documented	2.6	91%
	Frequency Documented	2.6	86%
Drug Indications	Drug prescribed appropriately for: Campylobacter infec., pertussis treatment or prophylaxis **If allergic to penicillin:** Strep. pneumonia, strep. tonsillitis, community-acquired bronch., prophylaxis for dental procedures, otitis media, skin/soft tissue infec.	2.3	20%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Allergy to erythromycin **Risk/benefit:** Hepatic impairment	2.6	100%
Drug Contraindications	NA		
Drug Monitoring	Overall Monitoring Score	0.1	0%
	Old Drugs:		
	If treatment >2 wks and on anticoagulants - prothrombin time q. 1 mo	0.1	0%
	New Drugs:		
	If treatment prolonged >2 wks and if on carbamazepine or phenytoin - serum drug levels of these 2 drugs within 1 mo start of therapy	0.0	%
	If treatment prolonged >2 wks and if on anticoagulants - prothrombin time within 1 wk start of therapy	0.0	%
	If treatment prolonged >2 wks and if on theophylline - levels within 1 mo start of therapy	0.0	%

TETRACYCLINE

The table on the opposite page displays the results of the review of those patients taking tetracycline, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking tetracycline.



Drugs within this class

Generic	Trade
Demeclocycline	Declomycin
Doxycycline	Doryx, Vibramycin
Methacycline	Rondomycin
Minocycline	Minocin
Oxytetracycline	Terramycin
Tetracycline	Achromycin, Panmycin, Sumycin, Tetracyn

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

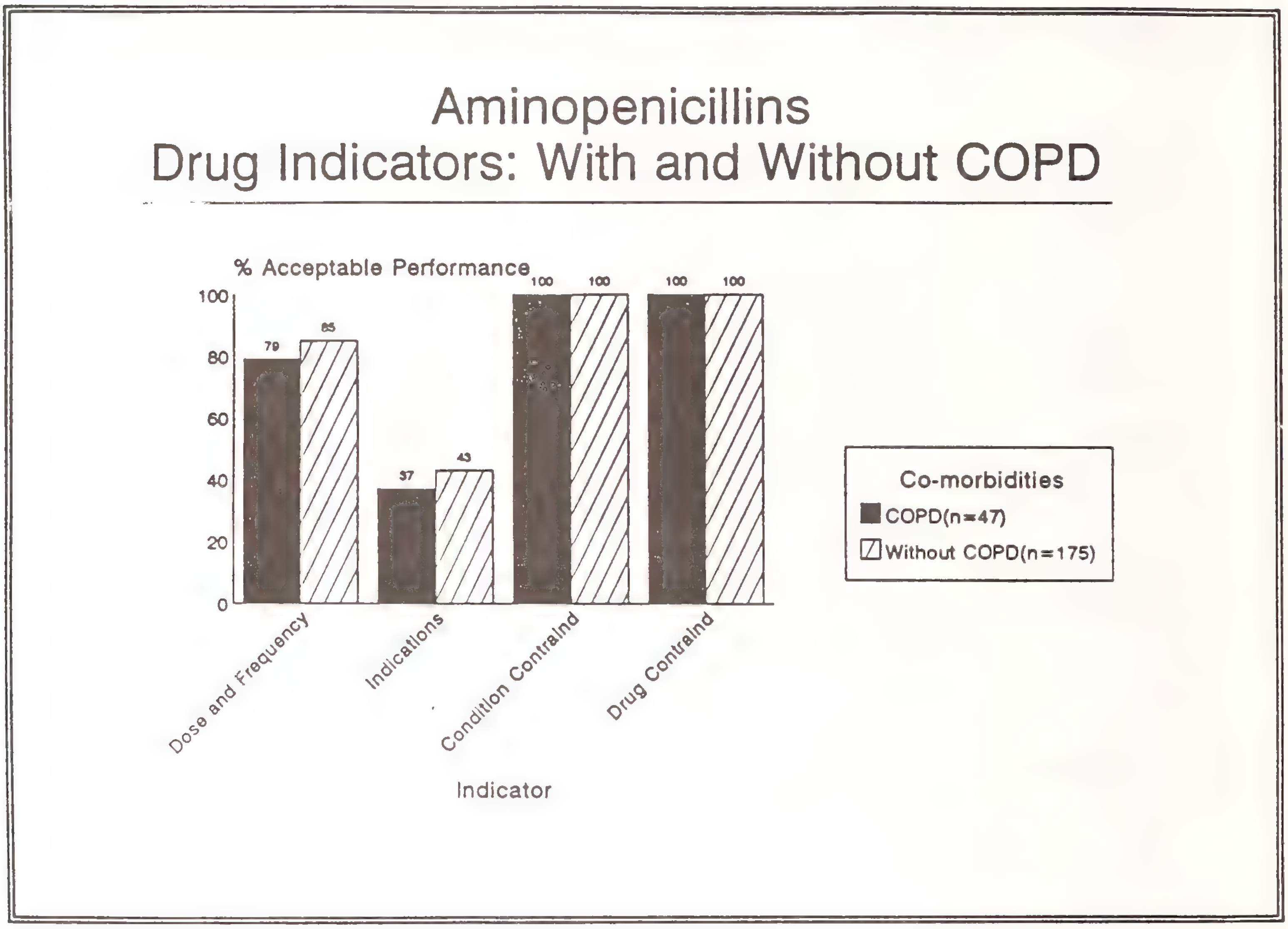
CODE: 64 TETRACYCLINE

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.3	76%
	Dose Documented	2.3	88%
	Frequency Documented	2.3	82%
Drug Indications	Drug prescribed appropriately for: Acute/chron. bronchitis, pneumonia, pelvic inflamm. disease, urinary tract infec., chron. prostatitis, Lyme disease, chlamydia, epididymo-orchitis	2.1	55%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** BUN >50 or creat. >2.5 **Risk/benefit:** None	2.3	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Anticoagulants	2.3	100%
Drug Monitoring	Overall Monitoring Score	0.1	0%
	Old Drugs:		
	NA		
	New Drugs:		
	If minocycline, warn re vestibular effect	0.1	0%

AMINOPENICILLINS

The table on the opposite page displays the results of the review of those patients taking an aminopenicllin, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking an aminopenicillin.



Drugs within this class

Generic	Trade
Amoxicillin	Amoxil, Polymox, Trimox, Wymox
Amoxicillin+Clavulanate	Augmentin
Ampicillin	Amcill, Omnipen, Polycillin, Principen, Totacillin
Ampicillin+Sulbactam	Unasyn
Bacampicillin	Spectrobid
Cyclacillin	Cyclapen-W

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

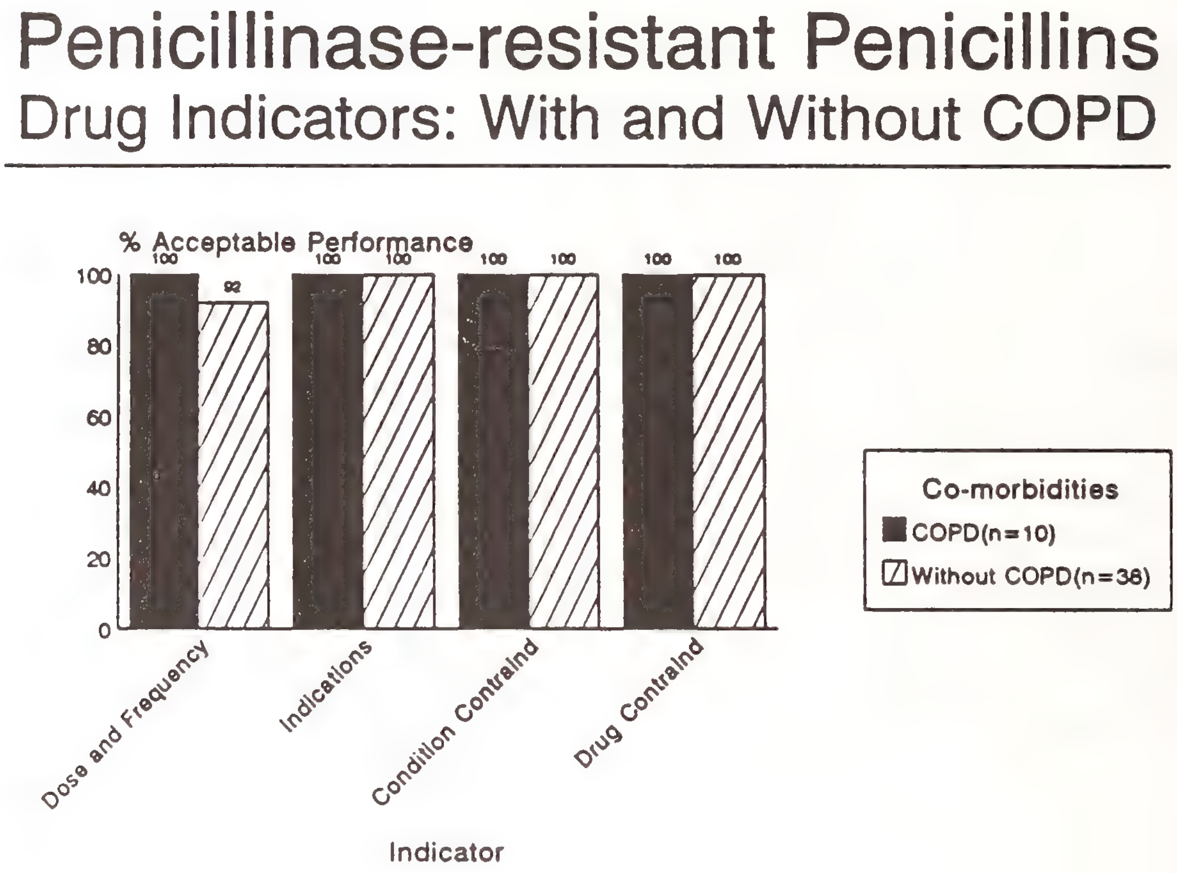
Peer Group: General Practice

CODE: 65 **AMINOPENICILLINS**

Indicator	Criterion	Peer Group Rates: Average Number of Patients per Physician	Peer Group Rates: Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	3.4	87%
	Dose Documented	3.4	93%
	Frequency Documented	3.4	87%
Drug Indications	Drug prescribed appropriately for: Otitis media, sinusitis, shigella gastroenteritis, urinary tract infec., acute prostatitis, pelvic inflamm. disease, acute epididymo-orchitis, urethral gonorrhea, pneumonia	3.0	32%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Allergy to penicillin	3.4	100%
Drug Contraindications	NA		
Drug Monitoring	NA		

The table on the opposite page displays the results of the review of those patients on a penicillinase-resistant penicillin, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking a penicillinase-resistant penicillin.



Drugs within this class

Generic	Trade
Cloxacillin	Cloxapen, Tegopen
Dicloxacillin	Dynapen, Pathocil, Dycill
Oxacillin	Bactocill, Prostaphlin

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

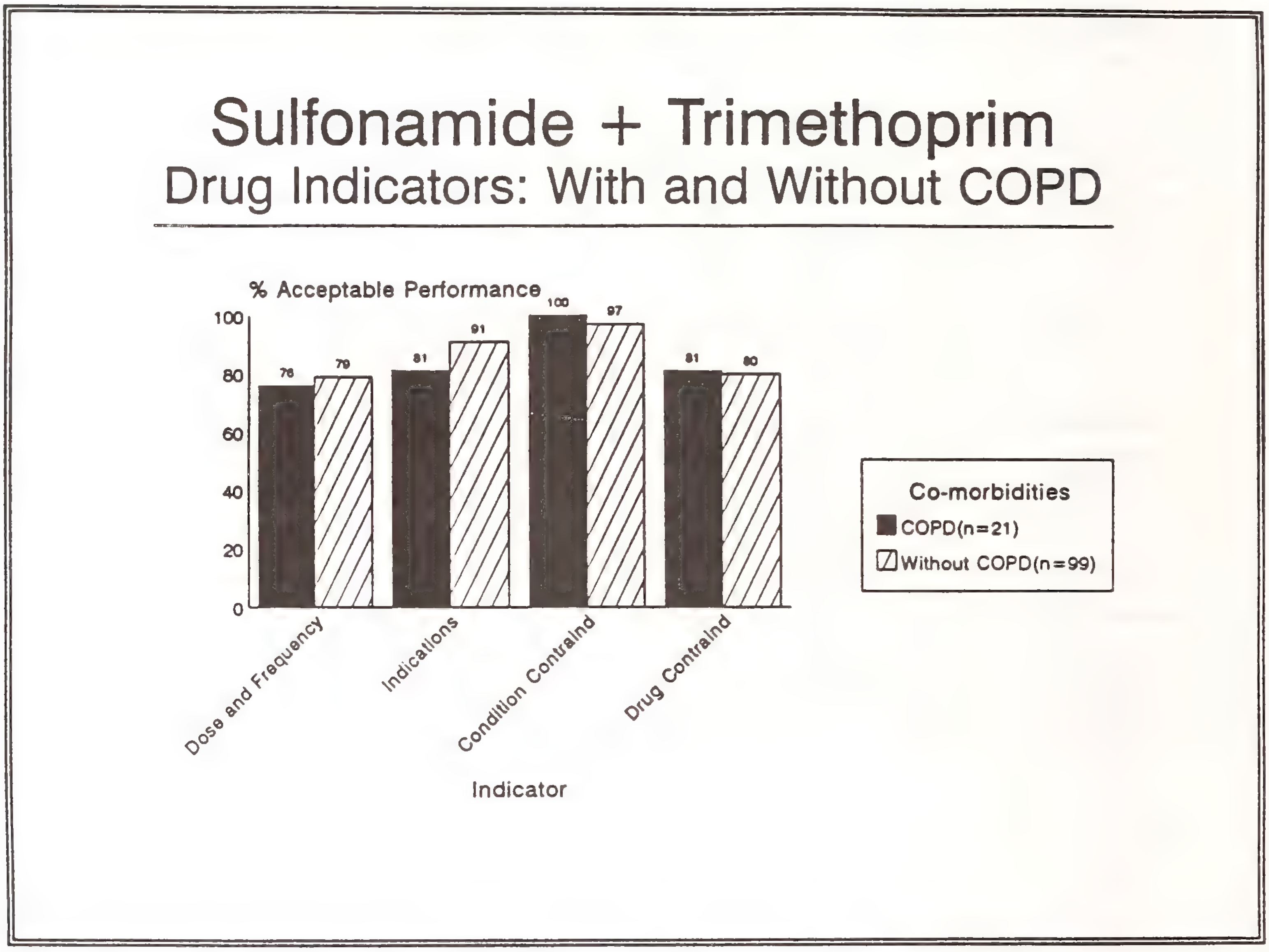
Peer Group: General Practice

CODE: 66 PENICILLINASE-RESISTANT PENICILLINS

		Peer Group Rates	
Indicator	**Criterion**	**Average Number of Patients per Physician**	**Average Percent Acceptable Performance**
Dose and Frequency	Both dose and frequency documented	2.4	86%
	Dose Documented	2.4	86%
	Frequency Documented	2.4	86%
Drug Indications	Drug prescribed appropriately for: Infections of skin and soft tissue, mild infections of joints, respiratory and genitourinary tract infections where penicillin-resistant strains have been cultured or are suspected.	0.4	100%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Allergy to penicillin	2.4	100%
Drug Contraindications	NA		
Drug Monitoring	NA		

The table on the opposite page displays the results of the review of those patients on bactrim, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking bactrim.



Drugs within this class

Generic	Trade
Sulfamethoxazole+Trimethoprim	Bactrim, Cotrim, Septra

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 72 SULFONAMIDE + TRIMETHOPRIM

		Peer Group Rates	
Indicator	**Criterion**	**Average Number of Patients per Physician**	**Average Percent Acceptable Performance**
Dose and Frequency	Both dose and frequency documented	2.2	76%
	Dose Documented	2.2	83%
	Frequency Documented	2.2	82%
Drug Indications	Drug prescribed appropriately for: Lower urinary tract infec., pyelonephritis, prophylaxis of urinary infec., sinusitis, chron. bronchitis, chron. prostatitis, shigellosis, otitis media, traveler's diarrhea, salmonellosis	1.9	86%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Sulfonamides allergy, G6PD deficiency **Risk/benefit:** Blood dyscrasias or megaloblastic anemia, hepatic impairment, renal impairment	2.2	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Oral antidiabetics, anticoagulants, phenytoin, methotrexate, thiazides	2.2	70%
Drug Monitoring	Overall Monitoring Score	0.3	10%
	Old Drugs:		
	If long-term, high-dose therapy:		
	CBC - q. 1 mo	0.1	0%
	UA - crystals q. 6 mos	0.1	0%
	BUN or creat. q. 6 mos	0.1	0%
	If anticoagulants - prothrombin time q. 1 mo	0.0	%

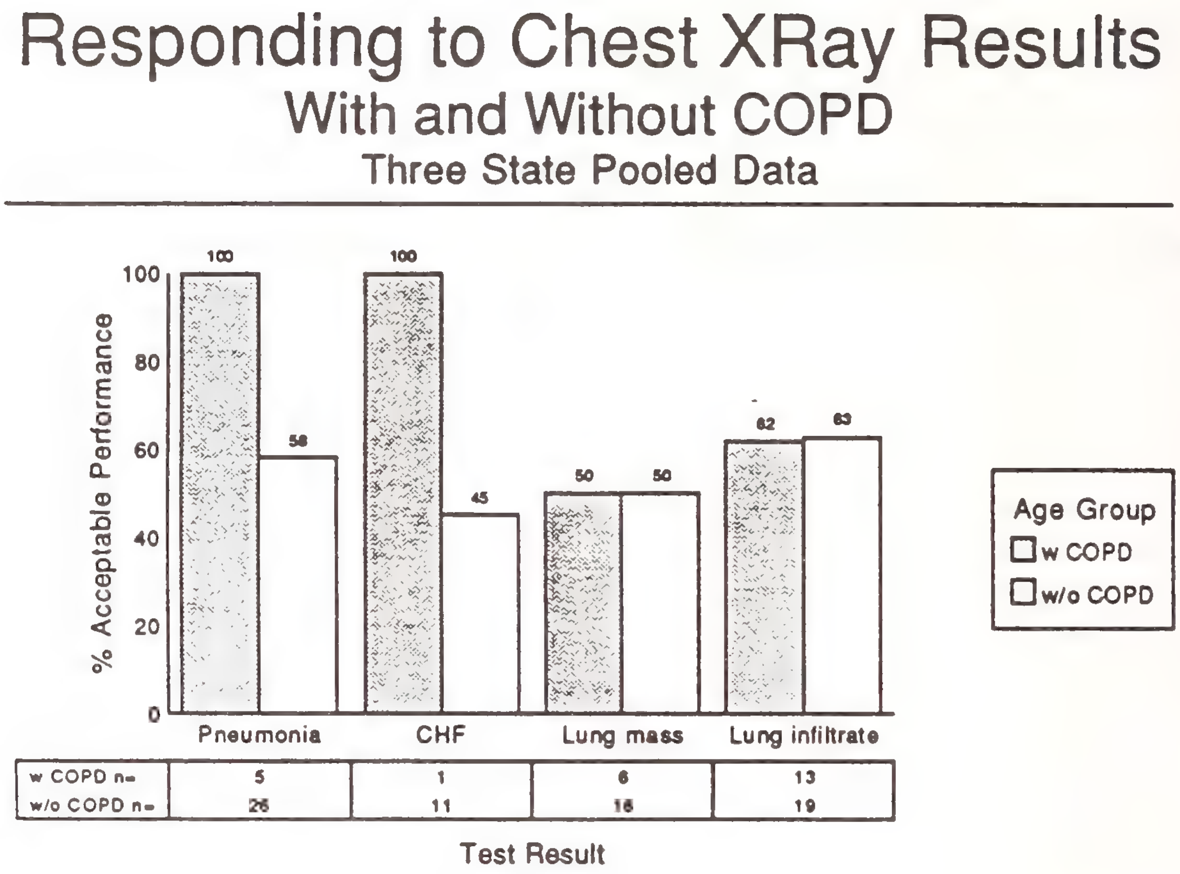
(cont'd)

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	New Drugs:		
	If >1 mo: CBC - within 1 mo start of therapy	0.3	13%
	UA - crystals within 6 mos start of therapy	0.2	25%
	BUN or creat. - within 6 mos start of therapy	0.2	25%
	If anticoagulants - PT within 1 wk start of therapy	0.2	33%
	If dilantin - levels within 1 mo start of therapy	0.2	33%

CHEST XRAY

The table on the opposite page displays the results of the review of those patients with abnormal chest xray tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with abnormal chest xray tests.



CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

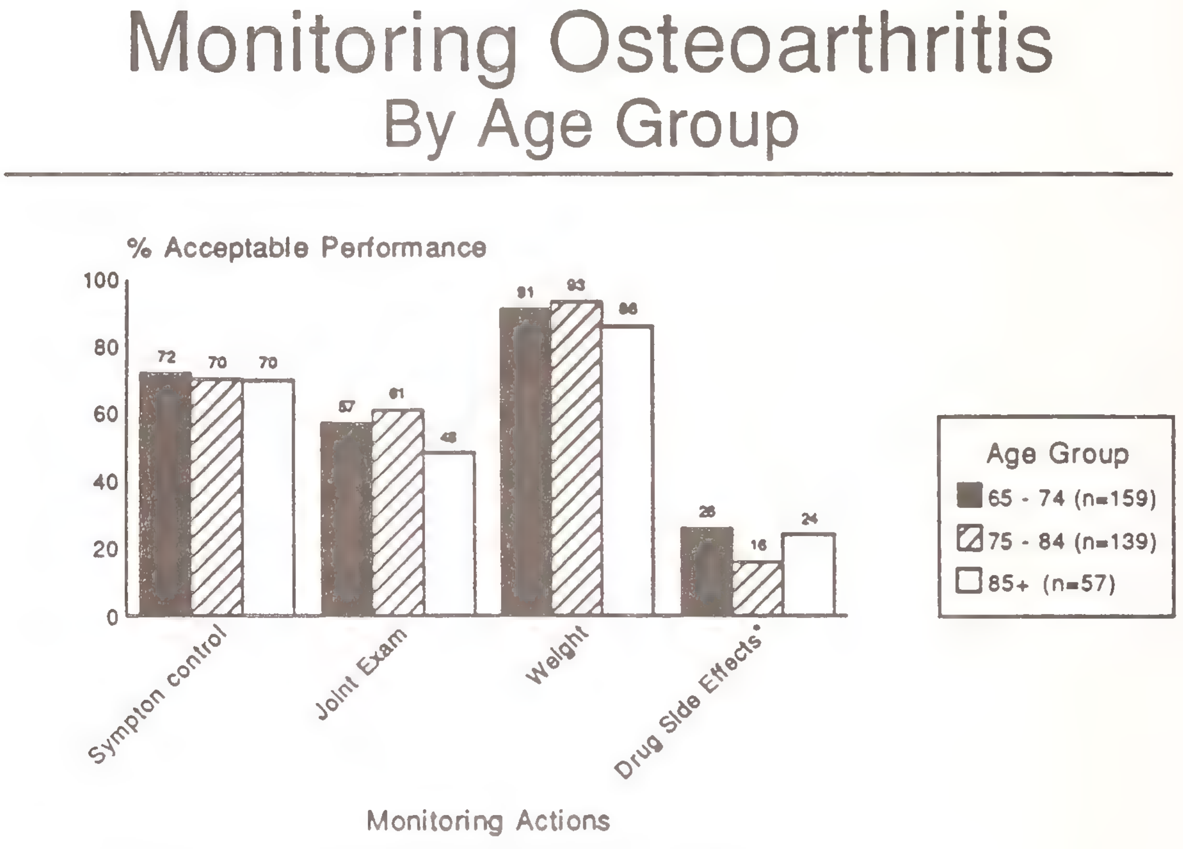
CODE: 12 **X-RAY: CHEST**

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions: Annually in chronic smoker:** Known or suspected heart disease, chest disease, or esophageal disease; heartburn/acid reflux; chest or shoulder pain; cough, fever, lung signs; cough and wt loss in smoker; preop chest x-ray; chest trauma, suspected rib fracture; known TB or positive PPD.	2.5	96%
Test Urgent Response	Patient referred to hospital or ER for lab values: Significant evidence of CHF OR pulm. edema OR pneumothorax impairing resp. or cardiac func. OR severe pneum. with incapacitating symptoms OR pneum. in debilitated patient OR pneum. in patient unable to care for self AND without caregiver.	0.1	100%
Test Response	Overall score:	0.5	67%
	Abnormal test results appropriately followed up:		
	Pneumonia: Within 1 day treat with antibiotics and review within 1 wk. If symptoms persist, repeat x-ray and get PPD within 1 mo.	0.3	60%
	CHF: Within 1 wk review salt intake. Start or adjust diur. therapy. Re-exam within 1 wk. If symptoms persist, augment treatment OR req. consult OR referral.	0.1	100%
	Lung mass: Within 2 wks, chest CT scan and biopsy or referral to pulm./thoracic surgeon.	0.1	100%
	Lung infiltrate: Within 1 day treat with antibiotics for >1 wk, then repeat x-ray and get PPD after therapy if symptoms persist.	0.1	50%
	Pneumothorax, small newly discovered: Within 1 day treat symptomatically, repeat x-ray within 24 hrs and if increase in size, immediate referral or hospitalization.	0.0	%

OSTEOARTHRITIS

The table on the opposite page displays the results of the review of your osteoarthritis patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with osteoarthritis.



* Patients were monitored for side effects of medication if they were on medication

CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

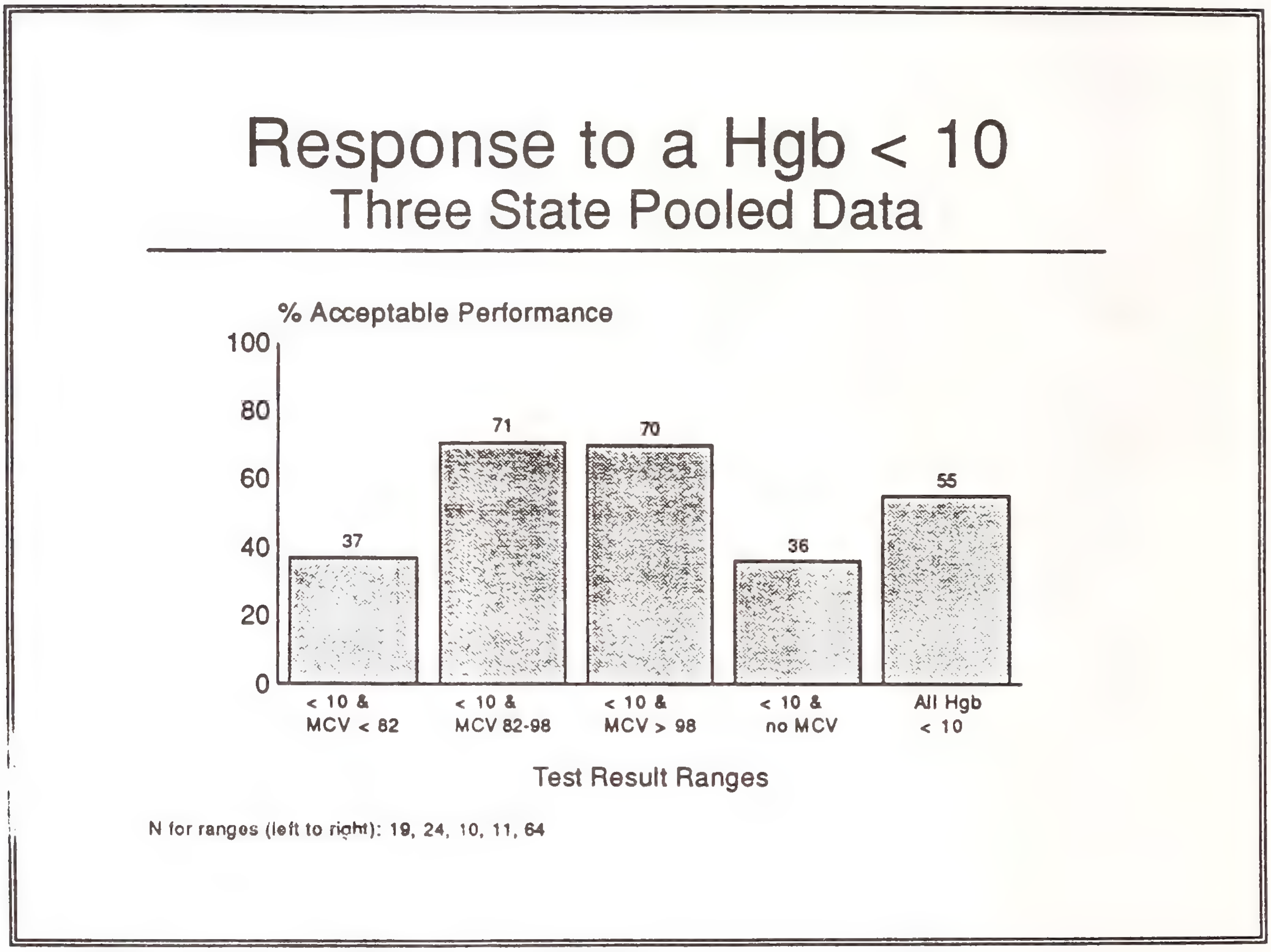
CODE 03: **OSTEOARTHRITIS**

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	4.0	59%
	Control of symptoms - once	4.0	65%
	Exam of joints most affected - once	4.0	58%
	Weight - once	4.0	92%
	Side effects of meds - once	3.8	19%
Evidence for a New Diagnosis	Symptoms lasting longer than 1 mo that are suggestive of osteoarthritis OR positive x-ray findings of osteoarthritis	1.3	56%
Search for Treatable Causes	Obesity (weight and height)	0.9	11%

HEMOGLOBIN/HEMATOCRIT

The table on the opposite page displays the results of the review of those patients with abnormal hgb/hct tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows three state (Maryland, Alabama, Iowa) combined data for patients with abnormal hgb/hct tests.



N for ranges (left to right): 19, 24, 10, 11, 64

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

CODE: 02 **HEMOGLOBIN/HEMATOCRIT - HGB >18 OR HGB <10**

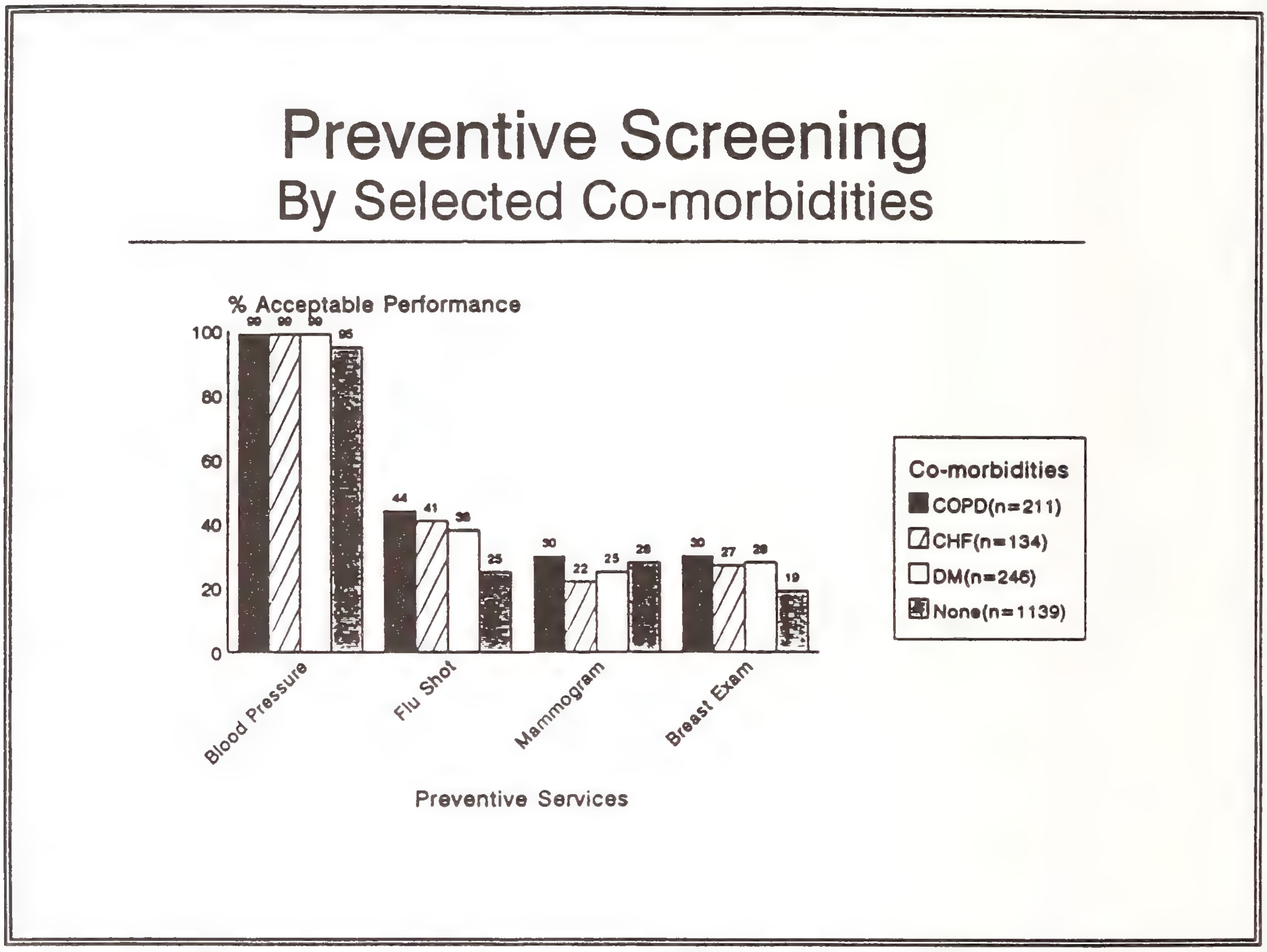
Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions:** Anemia, blood loss, CAD, HTN, chron. renal failure, polycythemia, melena/stool-positive occult blood, fatigue/dizziness/conf., decr. tolerance for exertion or shortness of breath, infec. symptoms, aspirin use, NSAID use, gastrointestinal dis., concern re nutrition, self-care	1.2	100%
Test Urgent Response	Patient referred to hospital or ER for lab values: If new finding of hemoglobin <6 or hematocrit <18% and symptomatic.	0.0	%
Test Response	Overall score:	1.2	50%
	Abnormal test results appropriately followed up:		
	Hemoglobin <10 and mean corpuscular vol. <82: Within 1 wk, RBC and peripheral smear. If mean corpuscular vol.<82, inq. re blood loss AND check iron/total iron-binding capacity OR serum ferritin OR therapeutic trial of iron. Then, if no obvious source of blood loss, check stool for occult blood. If iron deficiency, workup within 3 mos.	0.6	33%
	Hemoglobin <10 and mean corpuscular vol. 82-98: RBC and peripheral smear. If mean corpuscular vol. 82-98, then check iron/total iron-binding OR ferritin AND BUN/creat. and rev. results within 2 wks.	0.6	67%
	Hemoglobin <10 and mean corpuscular vol. >98: RBC and peripheral smear. Check history of chron. alcohol use, B12, folate, and review results within 2 wks.	0.0	%
	Hemoglobin >18 or hematocrit >54: Check arterial pO_2 and renal ultrasound and review results within 1 mo OR req. consult OR refer to hematologist.	0.0	%
	Hemoglobin <10 and MCV not available: Inquire as to obvious blood loss AND check iron/total iron-binding OR ferritin OR trial of iron. THEN check occult blood. If iron deficiency, work-up within 3 mos.	0.0	%

PREVENTION

PREVENTION

The table on the opposite page shows the results of the review of your patients' records for four selected preventive services: blood pressure, flu shot, breast exam (women only), and mammogram (women under age 75 only).

The graph on this page shows statewide performance data.



CLINICAL ITEM REPORT - Prevention
Review Period: July 1, 1989 - June 30, 1991

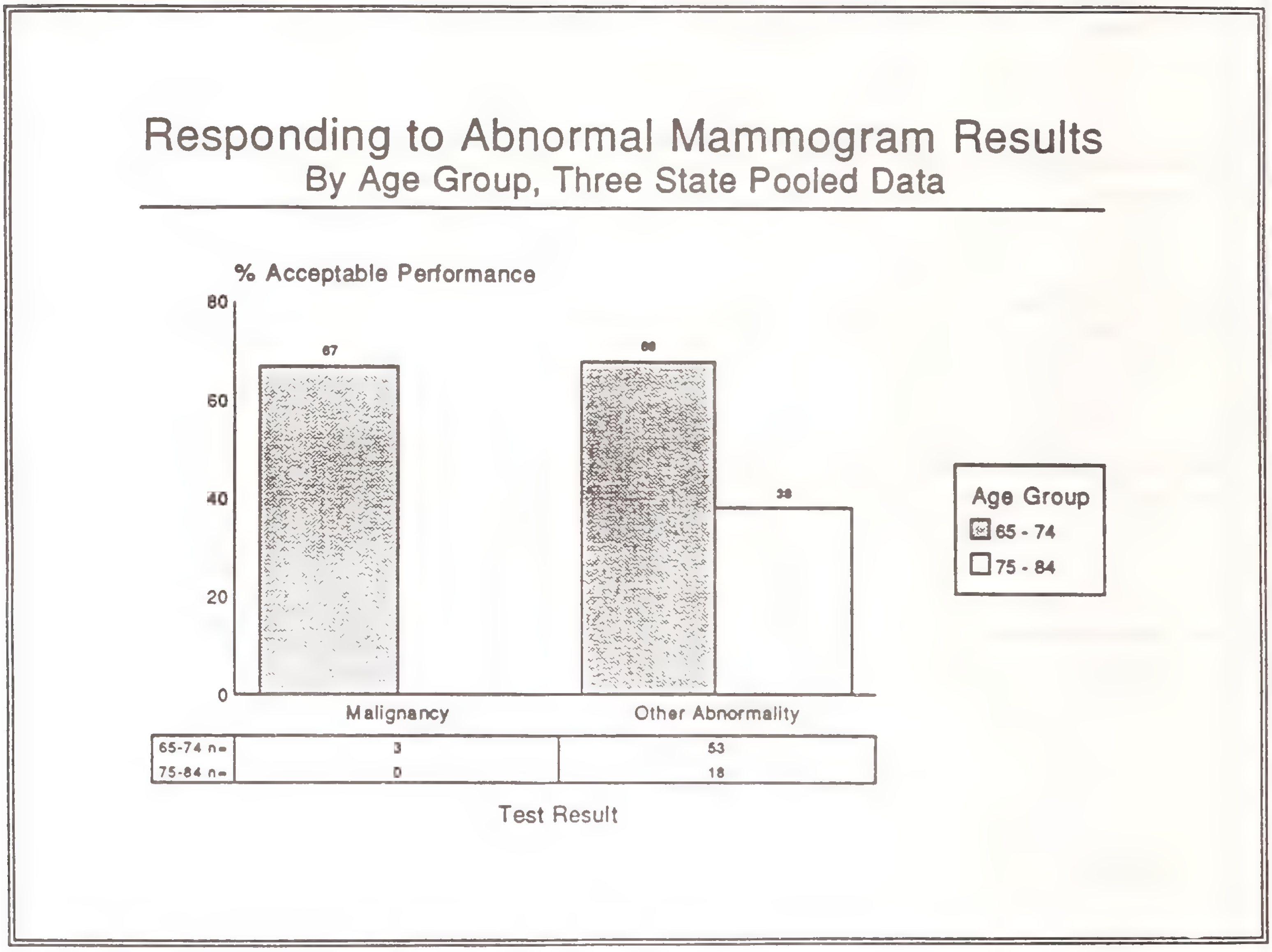
Peer Group: General Practice

Indicator	Criterion	Peer Group Rates Average Number of Patients per Physician	Peer Group Rates Average Percent Acceptable Performance
Blood Pressure	Once in two-yr period	18.0	95%
Mammogram	Once in two-yr period for women <75 yrs old	5.9	18%
Breast Exam	Once in two-yr period for women	11.4	18%
Flu Shot	Once in two-yr period	17.9	30%

MAMMOGRAM

The table on the opposite page displays the results of the review of those patients with abnormal mammograms, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with abnormal mammograms.



CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 13 **MAMMOGRAM**

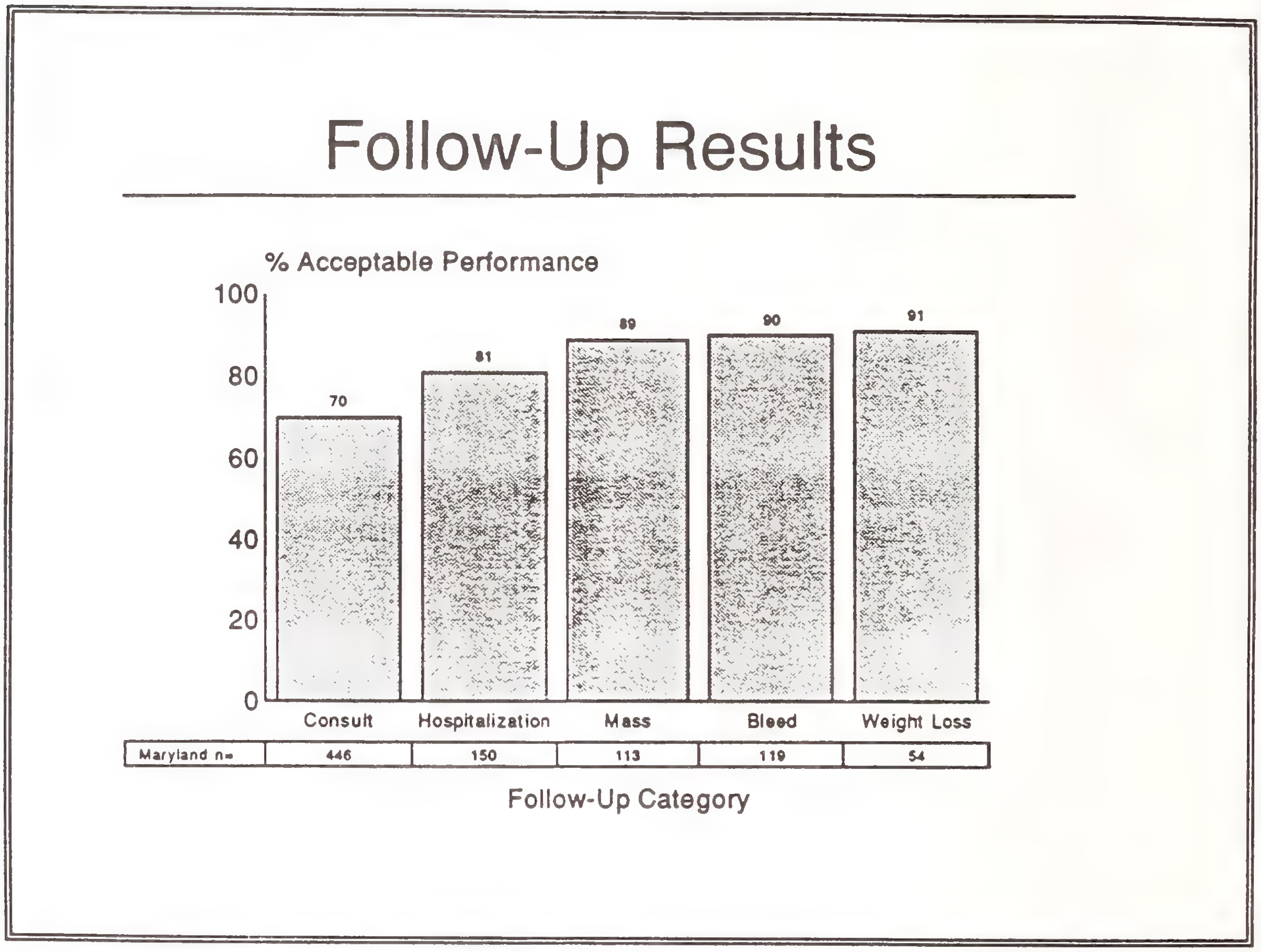
Indicator	**Criterion**	**Peer Group Rates**	
		Average Number of Patients per Physician	**Average Percent Acceptable Performance**
Test Indications	Tests ordered appropriately for: **Conditions: Annually:** Positive for family history of breast cancer, personal history of breast cancer, or screening.	1.6	96%
Test Urgent Response	NA		
Test Response	Overall score:	1.2	71%
	Abnormal test results appropriately followed up:		
	Abnormal mammogram, diagnostic of malignancy: Within 1 wk refer back to radiology or surgery.	0.1	100%
	Abnormal mammogram, not diagnostic: Within 6 mos repeat test in time specified by radiologist.	1.2	68%

FOLLOW-UP

FOLLOW-UP

The table on the opposite page shows the results of the review of your patients' records for five selected types of follow-up: follow-up of a hospitalization or consult request and follow-up of significant findings such as a mass, bleed or unexplained weight loss.

The graph on this page shows statewide performance data.



CLINICAL ITEM REPORT - Follow-Up
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

Indicator	Criterion	Peer Group Rates: Average Number of Patients per Physician	Peer Group Rates: Average Percent Acceptable Performance
Follow-up of Consult or Hospitalization	Overall Score	5.7	76%
	If consult requested, follow-up mention in record.	4.6	71%
	If hospitalization planned, follow-up mention in record.	1.3	83%
Follow-up of Significant Finding	Overall Score	2.4	90%
	If a mass is found, follow-up of finding in record.	1.0	94%
	If a bleed is found, follow-up of finding in record.	1.1	93%
	If a weight loss is found, follow-up of finding in record.	0.4	81%

INDICATOR SUMMARY REPORTS
June 30, 1993

INDICATOR SUMMARY REPORTS

The Indicator Summary Report presents one table for each function - drugs, diagnosis, tests, prevention, and followup. These tables summarize your performance rates for ***each*** indicator of a function.

1. How to read the Indicator Summary Report
The function displayed is shown in the title. The dates covered by the review appear immediately below the title. The function name also appears above the table, on the right, a placement which makes it easy to find the table when flipping through the book.

COLUMN	DESCRIPTION
Indicator	Displays the indicators associated with the function listed in the title for this page, e.g. Drugs, Tests, etc.
Your Rates: Number of drugs [tests, diagnoses, etc.]	Shows the number of items included in the rate displayed in the next column. If each of your 25 patients had two drugs, then number of drugs shown in this column would be 50. The number of drugs [tests, diagnoses, etc.] evaluated depends upon the indicator. For example, indicators which apply only to new diagnoses usually have fewer cases than indicators which apply to pre-existing diagnoses (see GLOSSARY for definitions of *new* versus *pre-existing*).
Your Rates: Percent Acceptable Performance	Displays the "percent acceptable performance" rate for an indicator. See below for calculation details.
Peer Group Rates: Average Number of drugs [test, diagnoses, etc.] per physician	Shows the average number of items ***per physician*** who were included in the rate shown in the next column
Peer Group Rates: Average Percent Acceptable Performance	Presents the average percent acceptable performance rate for all physicians in your peer (specialty) group. See below for calculation details.
Quartile Rank	Displays a comparative statistic. All rates within your specialty for a particular indicator are divided into four equal groups: 1st (lowest) quartile: your score fell between the 0th and 24th percentile, inclusive 2nd quartile: your score fell between the 25th and 49th percentile, inclusive 3rd quartile: your score fell between the 50th and 74th percentile, inclusive 4th (highest) quartile: your score fell between the 75th and 99th percentile, inclusive

2. Interpreting the Indicator Summary Report

Indicator rates summarize performance across different clinical items such as penicillin, beta blockers and corticosteroids. The average rates of physicians within your specialty who submitted records for DEMPAQ review are given so you can see how your performance compares to that of your peers. **Caution:** Rates based on small numbers of cases (fewer than 5) may not reflect your customary performance, because the small number gives a statistically unstable result.

The quartile rank presents another measure of comparison with your peers. Performance in the 4th quartile usually may be considered better than performance in the first quartile. **Caution:** If the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range (see diagrams on pages opposite the tables), then the differences in performance between the 1st and 4th quartiles may not be clinically important.

3. Calculating the Indicator Summary Rates

The indicator rates are first calculated for a patient and then averaged across all patients. Figure one depicts how the MET and AA scores for each clinical item are added together and divided by the total number of applicable scores for a patient (MET + AA + FLAG). This gives a patient level performance rate for a particular indicator. The monitoring (drug and diagnosis) indicator rates are calculated by averaging the percentage of monitoring items with met or AA findings across all applicable clinical items.

Figure One

Diagnosis Indicator Rates
For a Single Patient

	DM	HTN	IHD	CHF	COPD	OA	RATE
Evidence for New Dx	NA	NA	NA	MET	FLAG	NA	1/2 = 50%
Treatable Cause	NA	NA	NA	FLAG	FLAG	NA	0/2 = 0%
Old Dx Monitoring	88	50	33	NA	NA	NA	(88+50+33)/3 = 57%

Figure two shows how the indicator rates for each patient are averaged to create the doctor level indicator rate. The denominator is the number of patients to whom the indicator applies. This method of calculating a summary rate ensures that no single patient will unduly influence the summary rate.

Figure Two

Indicator Summary Rates

For a Physician

	Patient 1	Patient 2	Patient 3	Rate*
Evidence for New Dx	50	100	NA	(50+100)/2 = 75%
Treatable Cause	0	100	NA	(0+100)/2 = 50%
Old Dx Monitoring	57	50	33	(57+50+33)/3 = 47%

*Rate = average across all patients

4. Calculating peer group rates

Peer group rates are constructed by averaging individual physician performance rates, by specialty. Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

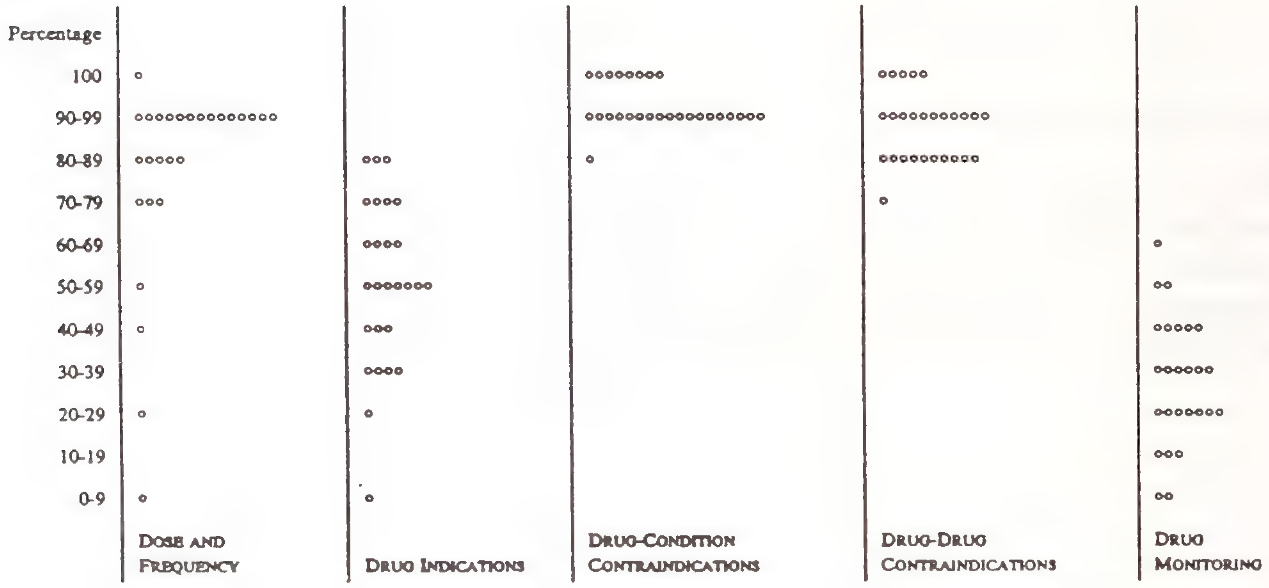
DRUG INDICATOR SUMMARY

The table on the opposite page summarizes performance on the five drug indicators. The function is identified both in the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page, you see that you scored 87% for the Dose and Frequency indicator, then you are represented by one of the dots in the 80-89% row of the Dose and Frequency column. Find your Drug Indications performance rate on the opposite page and then locate the corresponding dot in the Drug Indications column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g., if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.

RATE OF ACCEPTABLE PERFORMANCE
GENERAL PRACTICE - DRUGS



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Drugs

Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

DRUGS

	Peer Group Rates	
Indicator	**Average Number of Drugs per Physician**	**Average Percent Acceptable Performance**
Dose and Frequency	34.0	81%
Drug Indications	17.1	55%
Condition Contraindications	34.0	96%
Drug Contraindications	34.0	92%
Drug Monitoring	20.6	31%

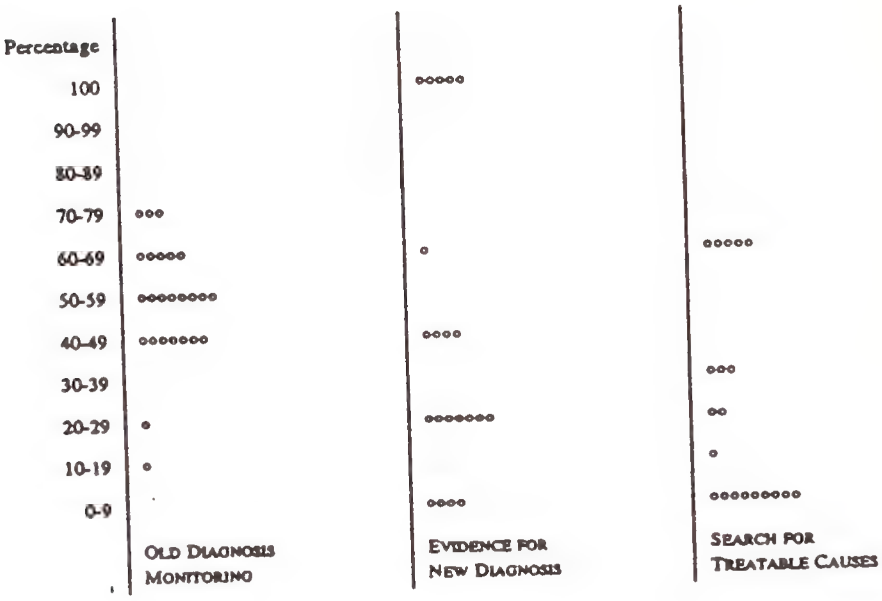
DIAGNOSIS INDICATOR SUMMARY

The table on the opposite page summarizes performance on the three diagnosis indicators. The function is identified in both the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Old Diagnosis Monitoring indicator, then you are represented by one of the dots in the 80-89% row of the Old Diagnosis Monitoring column. Find your Evidence for New Diagnosis performance rate on the opposite page and then locate the corresponding dot in the Evidence for New Diagnosis column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.

RATE OF ACCEPTABLE PERFORMANCE
GENERAL PRACTICE - DIAGNOSIS



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Diagnoses

Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

Indicator	Peer Group Rates	
	Average Number of Diagnoses per Physician	Average Percent Acceptable Performance
New Diagnosis Indications	3.5	45%
New Diagnosis Workup	2.8	21%
Pre-exisitng Diagnosis Monitoring	16.4	53%

TEST INDICATOR SUMMARY

The table on the opposite page summarizes performance on the three test indicators. The function is identified in both the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Test Indications indicator, then you are represented by one of the dots in the 80-89% row of the Test Indications column. Find your Appropriate Response performance rate on the opposite page and then locate the corresponding dot in the Appropriate Response column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.

RATE OF ACCEPTABLE PERFORMANCE
GENERAL PRACTICE - TESTS

Percentage	TEST INDICATIONS	TEST URGENT RESPONSE	TEST RESPONSE
100	ooooooooo	oooo	o
90-99	oooooo		
80-89	ooooooo		
70-79	oo		o
60-69	o		ooo
50-59	o		ooooo
40-49			ooo
30-39			ooooo
20-29			ooo
10-19			ooo
0-9			oo

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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

TESTS

Indicator	Peer Group Rates	
	Average Number of Tests per Physician	**Average Percent Acceptable Performance**
Test Indications	14.5	90%
Urgent Response	0.2	100%
Appropriate Response	9.4	40%

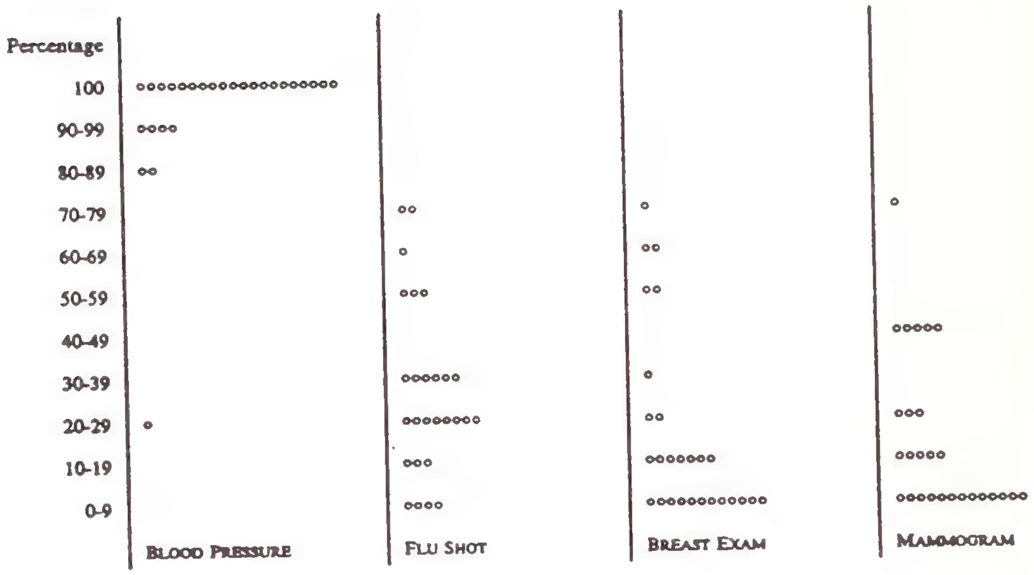
PREVENTION SUMMARY

The table on the opposite page summarizes performance on the four prevention indicators. The function is identified in both the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Blood Pressure indicator, then you are represented by one of the dots in the 80-89% row of the Blood Pressure column. Find your Influenza Immunization performance rate on the opposite page and then locate the corresponding dot in the Influenza Immunization column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.

RATE OF ACCEPTABLE PERFORMANCE
GENERAL PRACTICE - PREVENTION



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Prevention
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

Indicator	Peer Group Rates	
	Average Number of Patients per Physician	Average Percent Acceptable Performance
Blood Pressure	18.0	95%
Flu Vaccine	17.9	30%
Mammogram	5.9	18%
Breast Exam	11.4	18%

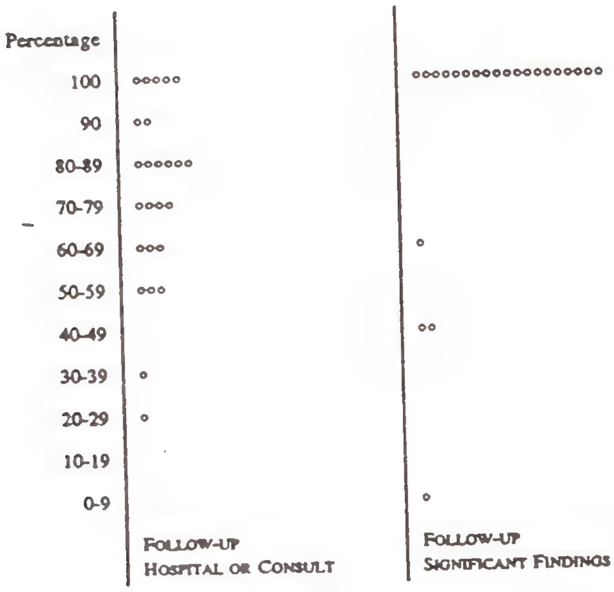
FOLLOW-UP INDICATOR SUMMARY

The table on the opposite page summarizes performance on the two follow-up indicators. The function is identified in both the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Consult or Hospitalization indicator, then you are represented by one of the dots in the 80-89% row of the Consult or Hospitalization column. Find your Significant Finding performance rate on the opposite page and then locate the corresponding dot in the Significant Findings column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.

RATE OF ACCEPTABLE PERFORMANCE
GENERAL PRACTICE - FOLLOW-UP



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Follow-up

Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

	Peer Group Rates	
Indicator	Average Number of Visits[1] per Physician	Average Percent Acceptable Performance
Consult or Hospitalization	5.7	76%
Significant Findings	2.4	90%

FUNCTION SUMMARY REPORTS

June 30, 1993

FUNCTION SUMMARY REPORT

The Function Summary Report presents a single table summarizing your performance on ***each*** function. Rates for individual indicators and different clinical items are combined within the function rate.

1. How to read the Function Summary Report

The dates covered by the review appear immediately below the title. The title of the table also appears above the table, on the right, a placement which makes it easy to find the table when flipping through the book.

COLUMN	DESCRIPTION
Function	Displays one of six functions reviewed by DEMPAQ.
Your Rates: Number	Shows the number of drugs, diagnoses, tests, patients or visits that were used to construct the rate shown in the next column.
Your Rates: Percent Acceptable Performance	Displays the "percent acceptable performance" rate on a function. See below for calculation details.
Peer Group Rates: Average Number	Shows the average number of drugs, diagnoses, tests, patients or visits ***per physician*** that were included in the rate shown in the next column.
Peer Group Rates: Average Percent Acceptable Performance	Presents the average percent acceptable performance rate for all physicians in your peer (specialty) group. See below for calculation details.
Quartile Rank	Displays a comparative statistic. All rates within your specialty for a particular function are divided into four equal groups: 1st (lowest) quartile: your score fell between the 0th and 24th percentile, inclusive 2nd quartile: your score fell between the 25th and 49th percentile, inclusive 3rd quartile: your score fell between the 50th and 74th percentile, inclusive 4th (highest) quartile: your score fell between the 75th and 99th percentile, inclusive

2. Interpreting the Function Summary

This report allows you to assess your overall performance on each clinical function. The table also gives you a good idea of the broad categories of clinical tasks you perform most frequently for your patients 65 and older. The average rates of physicians within your specialty who submitted records for DEMPAQ review are given so you can see how your performance compares to that of your peers. **Caution:** Rates based on small numbers of cases (fewer than 5) may not reflect your customary performance, because the small number gives a statistically unstable result.

The quartile rank presents another measure of comparison with your peers. Performance in the 4th quartile usually may be considered better than performance in the first quartile. **Caution:** If the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range (see diagrams on pages opposite the tables), then the differences in performance between the 1st and 4th quartiles may not be clinically important.

3. Calculating the Function Summary Rates

Figure one shows how the number of acceptable scores (MET + AA) are summed across all clinical items and indicators within a function and divided by the total number of scores for a patient (MET + AA + FLAG). This gives a patient level function performance rate.

Figure One
Function Summary Rates
For a Single Patient

	HTN	CHF	COPD	OA	Sum Across Items*	Number of Scores
Evidence for New Dx	NA	Flag	Met	NA	1	2
Treatable Cause	NA	Flag	Flag	NA	0	2
Old Dx Monitoring	0.62	NA	NA	0.75	1.37	2
Total					2.37	6
Patient Function Summary Rate					2.37/6=40%	

*Flag=0; Met and AA = 1

The patient level function summary rates are then averaged (see figure two). The denominator is the number of patients to whom the function applies. This method of calculating a summary rate ensures that no single patient will unduly influence the summary rate.

Figure Two

Diagnosis Function Summary Rates
For a Physician

	Patient Function Summary Rate
Patient 1	40%
Patient 2	50%
Patient 3	68%
Patient 4	NA
Physician Function Summary Rate	(40+50+68/3)=53%

4. Calculating peer group rates

Peer group rates are constructed by averaging individual physician performance rates, by specialty. Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

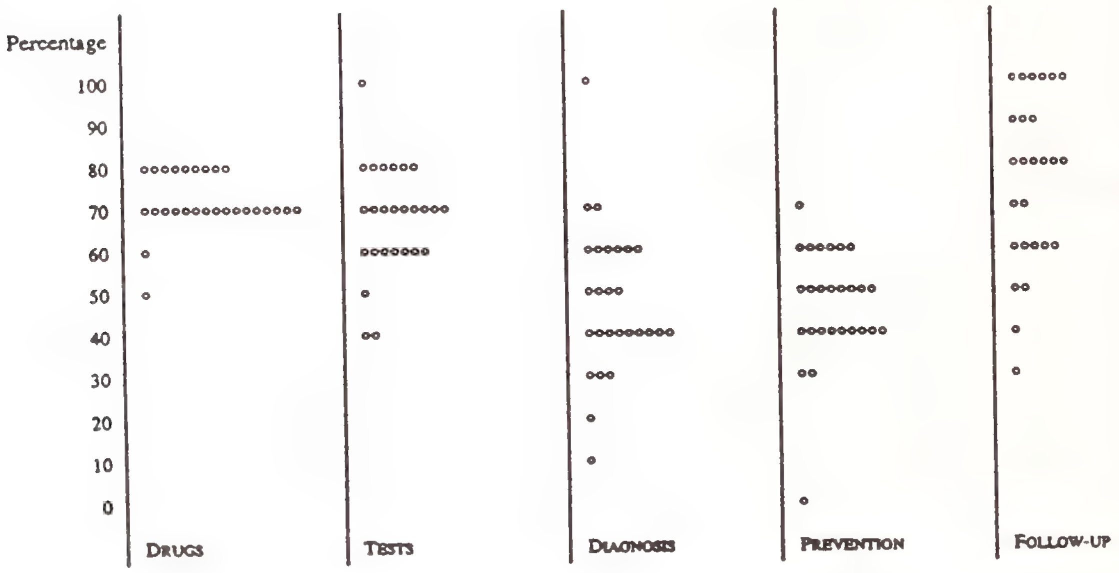
FUNCTION SUMMARY REPORT

The table on the opposite page summarizes performance on six of the DEMPAQ functions, shown in the left-hand column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each function. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Diagnosis function, then you are represented by one of the dots in the 80-89% row of the Diagnosis column. Find your Drugs performance rate on the opposite page and then locate the corresponding dot in the Drugs column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.

RATE OF ACCEPTABLE PERFORMANCE
GENERAL PRACTICE



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

FUNCTION SUMMARY REPORT

Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

Function	Peer Group Rates	
	Average Number of Items[1] per Physician	Average Percent Acceptable Performance
Diagnosis	19.9	51%
Tests	14.5	72%
Drugs	34.0	77%
Prevention	18.0	50%
Follow-Up	8.1	78%

RECORD DOCUMENTATION ASSESSMENT

June 30, 1993

RECORD DOCUMENTATION ASSESSMENT

The Record Documentation Assessment presents a single table summarizing your performance on six categories of record documentation: date, subjective, objective assessment, plan and clinician id.

1. How to read the Record Documentation Assessment Table

The dates covered by the review appear immediately below the title. The title of the table also appears above the table, on the right, a placement which makes it easy to find the table when flipping through the book.

COLUMN	DESCRIPTION
Documentation Category	Displays one of the six of documentation categories evaluated by DEMPAQ and give the overall documentation score.
Your Scores: Number of Visits Reviewed	Shows the number of visits used to construct the rate displayed in the next column. Each patient had at least the first and last two visits evaluated for quality of documentation.
Your Scores: Average Documentation Score	Displays the average level of documentation for each of the categories. Documentation ranges from 0 (none) to 3 (adequate).
Peer Group Scores: Average Number of Visits Reviewed	Shows the average number of visits reviewed for documentation, ***per physician***.
Peer Group Rates: Average Percent Acceptable Performance	Presents the average level of documentation for each of the six categories.
Quartile Rank	Displays a comparative statistic. All rates within your specialty for a particular indicator are divided into four equal groups: 1st (lowest) quartile: your score fell between the 0th and 24th percentile, inclusive 2nd quartile: your score fell between the 25th and 49th percentile, inclusive 3rd quartile: your score fell between the 50th and 74th percentile, inclusive 4th (highest) quartile: your score fell between the 75th and 99th percentile, inclusive

2. **Interpreting the Record Documentation Assessment**
This report allows you to assess your average level of documentation on six different types of documentation. Complete documentation enhances not only the continuity of medical care for a patient but also provides some legal protection. A low (close to zero) score on a particular type of documentation indicates the need for improved record keeping in that area. The average rates of physicians within your specialty who submitted records for DEMPAQ review are given so you can see how your performance compares to that of your peers.[1] **Caution:** Rates based on small numbers of cases (fewer than 5) may not reflect your customary performance, because the small number gives a statistically unstable result.

The quartile rank presents another measure of comparison with your peers. Performance in the 4th quartile usually may be considered better than performance in the first quartile. **Caution:** If the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range (see diagrams on pages opposite the tables), then the differences in performance between the 1st and 4th quartiles may not be clinically important.

3. **Calculating the Record Documentation Rates**
The quality of record documentation is evaluated on a four point scale: 0 = no documentation, 1 = illegible documentation, 2 = minimal documentation, and 3 = adequate documentation. An average documentation score is calculated for each patient.

Figure One

Record Documentation Rates

For a Single Patient

	Visit 1	Visit 2	Visit 8	Visit 9	Rate
Date	3	3	3	3	12/4=3.0
Subjective	3	3	2	3	11/4=2.75
Objective	3	3	3	3	12/4=3.0
Assessment	2	3	3	3	11/4=2.75
Plan	3	3	3	3	12/4=3.0
Clinician ID	1	1	3	3	8/4 =2.0

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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

Scores are then averaged across all patients to create a summary score describing a physician's average level of documentation. Scores close to zero indicate poor documentation, while scores close to 3 indicate adequate documentation.

Figure Two

Record Documentation Rates

For a Physician

	Patient 1	Patient 2	Patient 3	Patient 4	Rate
Date	3.0	3.0	3.0	3.0	12/4 = 3.0
Subjective	2.75	1.75	2.5	3.0	10/4 = 2.5
Objective	3.0	1.5	2.25	2.75	9.5/4 = 2.4
Assessment	2.75	1.75	2.75	2.75	10/4 = 2.5
Plan	3.0	2.0	3.0	2.75	10.75/4 = 2.7
Clinician ID	2.0	1.0	1.0	1.0	5/4 = 1.25

4. Calculating peer group rates

Peer group rates are constructed by averaging individual physician performance rates, by specialty. Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

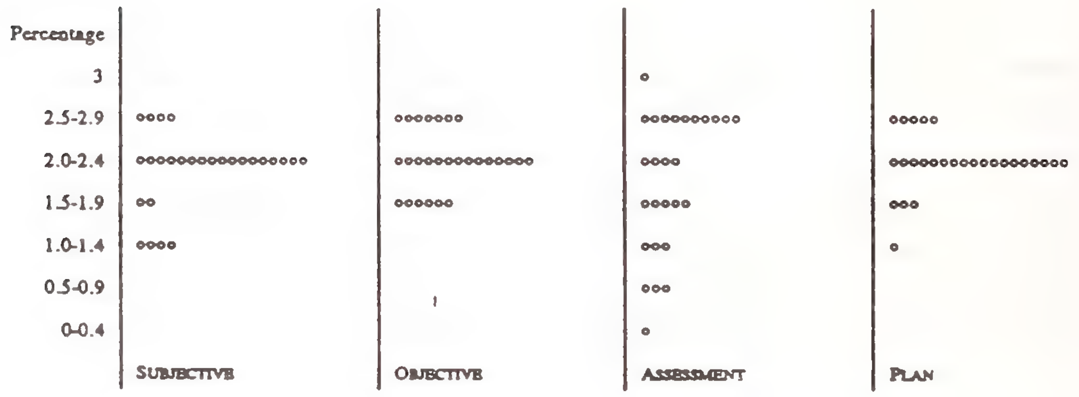
RECORD DOCUMENTATION REPORT

The table on the opposite page summarizes performance on the six record documentation measures and a summary measure. First left-hand column shows the measures. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each measure. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Subjective measure, then you are represented by one of the dots in the 80-89% row of the Subjective column. Find your Plan performance rate on the opposite page and then locate the corresponding dot in the Plan column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.

RATE OF ACCEPTABLE PERFORMANCE
GENERAL PRACTICE - DOCUMENTATION



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

RECORD DOCUMENTATION ASSESSMENT REPORT
Review Period: July 1, 1989 - June 30, 1991

Peer Group: General Practice

	Peer Group Documentation	
Documentation Category	**Average Number of Visits Evaluated per Physician**	**Average Documentation Score**
Date	92.8	3
Subjective	92.7	2
Objective	92.7	2
Assessment	92.7	1
Plan	92.7	2
ID	92.6	1
Overall	92.8	12

APPENDICES

APPENDIX A

DEMPAQ CLINICAL ITEMS

FUNCTION	CLINICAL ITEM
DRUGS	ACE Inhibitor Adrenergic Neuron Blocker Alpha Blocker Beta Blocker Centrally Acting Antiadrenergic Calcium Channel Blocker Direct-Acting Vasodilator Loop Diuretic Potassium Sparing Diuretic Thiazide Diuretic Ace+Thiazide Alpha Blocker + Thiazide Beta Blocker + Thiazide Centrally Acting + Thiazide Antiadrenergic + Thiazide+ Vasodilator Antiadrenergic + Vasodilator Vasodilator + Thiazide Thiazide + Potassium Sparing Nitrate Insulin Oral Hypoglycemic Corticosteroid NSAID Salicylate Beta-Adrenergic Agonist Inhaled Cholinergic Inhibitor Xanthine-Derivative Oral Beta-Adrenergic Agonist + Xanthine-Derivative Oral Beta-Adrenergic Agonist Oral Cephalosporin Erythromycin Penicillin Tetracycline Aminopenicillins Penicillinase-Resistant Penicillin Antipseudomonal penicillin Sulfonamide Sulfonamide + Trimethoprim

FUNCTION	CLINICAL ITEM
DIAGNOSES	Hypertension Ischemic Heart Disease Osteoarthritis COPD Diabetes Congestive Heart Failure
TESTS	Blood Pressure Hemoglobin/Hematocrit Cholesterol Potassium Blood Glucose Blood Gases ESR Creatinine Urinalysis ECG Joint X-Ray Chest X-Ray Mammogram
PROCEDURES	Flexible sigmoidoscopy Colonoscopy
PREVENTION	Blood Pressure Flu Shot Mammogram (women under age 75 only) Breast Exam (women only)
FOLLOW-UP	Consultation/Hospitalization Mass, Lump, Bleed

APPENDIX B

FUNCTIONS AND INDICATORS

FUNCTIONS	INDICATORS
DIAGNOSIS	Pre-existing diagnoses are appropriately monitored New diagnoses are justified by the evidence in the record Actions are taken to search for treatable causes or co-morbidities of new diagnoses
DRUGS	Drug dose and frequency appear in the record Drug is prescribed for an appropriate condition There are no condition contraindications in the record, or if present, they are justified There are no drug contraindications in the record, or if present, they are justified The patient is appropriately monitored for adverse effects of the medication
FOLLOW-UP	If the patient is hospitalized or referred, a discharge or consult note, or physician mention of the event is in the medical record If the patient has a mass, bleed, or unexplained weight loss, the finding is followed up in the time specified in the medical record, or within three months
PREVENTION	A blood pressure exam is done once in two years A flu shot occurs at least once in the two year period A breast exam is done once for women in two year period A mammogram is done once for women less than 75 years old in the two year review period
PROCEDURES	A procedure is ordered/performed for appropriate indications There is appropriate follow-up of abnormal results A biopsy is done if required The pathology report is in the medical record if a biopsy is taken The area to be visualized the 'scope' is seen
TESTS	The test is ordered/performed for appropriate conditions The patient is hospitalized or referred if required There is appropriate follow-up of abnormal results

Chapter 17
The DEMPAQ Record Review System: Results for Alabama

The report which follows shows one format for feeding information back to physicians. We fashioned the report to give physicians information unique to his or her practice and to present comparative summary data for physicians in the participant's peer specialty. The book was designed to help physicians answer several basic questions about his or her practice:

- How do I manage the most prevalent diagnoses, tests, and drugs encountered in the over-65 population?
- For which clinical activities do my practices differ from those of my colleagues?
- Are patients with vital preventive and follow-up care needs "slipping through the cracks?"
- Is my record documentation adequate to ensure continuity of care for my patients and to support risk management considerations?

This book includes four different types of reports, as listed below. The book starts with the specific (clinical item) and moves to the summaries (indicator and function). Each report is formatted similarly: tables on right hand page and on the facing, or left hand page, text describing the table. Below the text on some of the left hand pages is a figure displaying statewide data. Some reports (the Function Summary, Indicator Summary and Record Documentation Summary) contain graphic displays of group performance data on the left hand page.

I. **Clinical Item Report**—44 tables, one for each clinical item, showing:
  - criteria used to evaluate performance for each clinical item;
  - physician's average performance rates for each criterion; and
  - peer group (specialty) performance data.

II. **Indicator Summary**—six tables, one for each function, showing:
  - a physician's average performance rates for each indicator for that function;
  - peer group (specialty) performance data; and
  - a measure comparing the individual's performance to that of his or her peer group.

III. **Function Summary** —one table showing:
  - a physician's average performance rates for each function;
  - peer group (specialty) performance data; and
  - a measure comparing the individual's performance to that of his or her peer group.

IV. **Record Documentation Summary** —one table showing:
  - a physician's average performance on six measures of documentation;
  - peer group (specialty) performance data; and
  - a measure comparing the individual's performance to that of his or her peer group.

DEMPAQ QUALITY REVIEW SYSTEM (DQRS)

Reports from
DEMPAQ Medical Record Review

Internal Medicine

TABLE OF CONTENTS

I. Introduction
  Structure of DEMPAQ Review
  How the Data Were Collected and Scored
  Types of Reports in This Book
  Glossary of Frequently Used Terms

II. Clinical Item Reports

III. Indicator Summary Report

IV. Function Summary Report

V. Record Documentation Report

APPENDIX A. DEMPAQ Clinical Items

APPENDIX B. DEMPAQ Functions and Indicators

PREFACE

The tables in this book are unique to your practice. They have been produced from the data abstracted from the medical records you submitted for the DEMPAQ project.

The tables in this book also show a summary of the data for physicians in your specialty. With these data, you can compare your performance with that of your peers.

The tables presented on the following pages display performance data in several different ways to help you answer questions about your Medicare-aged patients such as:

- **How do I manage the most prevalent diagnoses, tests, and drugs encountered in the over-65 population?**

- **For which clinical activities do my practices differ from those of my colleagues?**

- **Are patients with important preventive and follow-up care needs "slipping through the cracks?"**

- **Is my record documentation adequate to ensure continuity of care for my patients and to support risk management considerations?**

GOALS OF THE DEMPAQ PROJECT

The DEMPAQ project is a three year cooperative demonstration project funded by the Health Care Financing Administration to enhance the quality of care given to Medicare beneficiaries in physician offices. The project was implemented in three states: Maryland, Alabama, and Iowa. The goals of the project include:

- Developing tools to assess the quality of ambulatory care;
- Using the tools to identify possible areas for improvement;
- Evaluating the reliability, validity, and usefulness of the tools; and
- Devising and testing methods to feedback information about performance to practicing physicians.

This book presents the results of a review of the medical records you submitted in the fall of 1991. The review covered a two year window:

July 1, 1989 through June 30, 1991

STRUCTURE OF THE DEMPAQ REVIEW

The DEMPAQ record review takes an in-depth look at patterns of care given to elderly Medicare patients in physicians' offices. The framework of the record review system follows.

Functions

FUNCTIONS are clinical activities that are commonly performed in the course of an office visit. In this report, we review the following functions:

- Prescribing and monitoring a DRUG
- Making a DIAGNOSIS
- Responding to an abnormal TEST
- Performing PREVENTIVE or SCREENING services
- FOLLOW-UP of serious health threats
- Ordering or performing a PROCEDURE
- DOCUMENTING in the medical record.

Clinical Items

A CLINICAL ITEM is a specific drug (e.g. ACE inhibitor), diagnosis (e.g. diabetes mellitus), test or procedure. The drugs we selected to review for the Drug function are commonly prescribed for the elderly population. Likewise, the diagnoses we selected for the Diagnosis function represent prevalent conditions among the elderly and account for significant morbidity. Appendix A displays the clinical items reviewed.

Indicators (Rates of performance of specific actions)

INDICATORS, (also known as performance rates) measure key actions associated with a function. For example, the indicators we selected for the Diagnosis function include:

- Monitoring a pre-existing diagnosis
- Making a new diagnosis
- Searching for treatable causes or co-morbidities of a diagnosis.

These actions represent important aspects of the clinical processes that lead to patient outcomes. For each action, we measure the rate at which it is performed for relevant patients. The DEMPAQ indicators are shown in Appendix B.

Criteria

Unique review criteria have been developed for each clinical item/indicator combination (see figure one). The criteria express the specific clinical details which represent appropriate performance of an indicator. Of course, the actions which represent appropriate monitoring for a pre-existing diagnosis of diabetes differ from the appropriate monitoring actions for ischemic heart disease (see figure two).

Figure One

Criteria for Indicators: the Basic Format

	Item 1	Item 2	Item 3	Item 4	Item 5
Indicator 1	specific criteria				
Indicator 2			specific criteria		
Indicator 3		specific criteria			specific criteria

Figure Two

Criteria for Indicators: Diagnosis

	Diabetes	HTN	IHD	CHF	COPD	OA
Old diagnosis monitoring	HgbA1C, etc.		Heart Exam, etc.			
Indications for new Dx	FBS > 140		Chest Pain, etc.			
Search for cause/comorb	Steroids		HTN,etc.			

HOW THE DATA WERE COLLECTED AND SCORED

Sample

You were invited to participate in the DEMPAQ project because your name was randomly chosen from a list of all primary care physicians who provided services to Medicare patients in Alabama. The list was generated from Medicare claims data. With the letter of invitation, we included a listing of 25 of your Medicare patients. Like you, the patients had been randomly selected. We asked for photocopied records of these 25 patients for a two year window: July 1, 1989 through June 30, 1991. The charts were mailed to the Alabama Quality Assurance Foundation (AQAF) for review.

DQRS Review

The review was accomplished with a computerized record review system, developed specially for the DEMPAQ project, called DQRS (or "DEMPAQ Quality Review System"). Review criteria were stored in special data dictionaries and called into the computer program as needed. These review criteria were developed with advice and comments from the major primary care medical societies in each of the three study states. In Alabama, the groups were the Medical Association for the State of Alabama, the Alabama Chapter of the American Society of Internal Medicine, and the Alabama Chapter of the American Association of Family Physicians. Criteria were originally derived from guidelines and standard medical texts, but were revised in several cycles of review by the above mentioned physicians.

Reviewers at the PRO abstracted charts over a five month period. A five percent random sample of charts were re-reviewed by a second reviewer to make sure the abstraction rules were being followed consistently. In addition, approximately 400 records were reviewed by physicians using a structured peer review form to determine whether the review criteria were relevant and useful for assessing the of quality of care in a particular case.

Scoring

After the completion of the review, each finding is assigned one of five scores: met, acceptable alternative, not applicable, not reviewable, and flag[1]. These terms are defined in the glossary. A special computer program then calculates the acceptable performance rate on each item, indicator and function. The formula for percent acceptable performance is

$$\%\text{ acceptable performance} = \frac{(\text{Met} + \text{AA})}{(\text{Met} + \text{AA} + \text{Flag})}$$

Summary rates are first calculated at the patient level and then averaged across all patients. This ensures that no single patient will unduly influence the summary rate.

The record documentation function is scored differently. The reviewers evaluate the quality of record documentation on a four point scale: 0 = no documentation, 1 = illegible documentation, 2 = minimal documentation, and 3 = adequate documentation. Data are then averaged across patients to create a summary score describing a physician's average level of documentation. Scores close to zero indicate poor documentation, while scores close to 3 indicate adequate documentation.

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[1] Met: meets the criterion exactly; acceptable alternative: did not meet the criterion for a set of pre-defined reasons, e.g. patient refusal; not applicable: the criterion does not apply to this case; not reviewable: the time frame for records data was insufficient to review this item for this case; flag: the case did not meet the criterion, nor any of the categories above.

TYPES OF REPORTS INCLUDED

This book includes four different types of reports, as listed below. We start with the specific (clinical item) and move to the summaries (indicator and function). Each report is formatted similarly. Tables are presented on right hand pages. On the facing, or left hand page, text describing the table appears. Below the text for some pages, is a figure displaying statewide data. Some reports (the Function Summary, Indicator Summary and Record Documentation Summary) also contain additional graphic displays of group performance data on the left hand page.

I. **Clinical Item Report** - 44 tables, one for each clinical item, showing:
- criteria used to evaluate performance for each clinical item;
- your average performance rates for each criterion; and
- peer group (specialty) performance data.

II. **Indicator Summary** - six tables, one for each function, showing:
- your average performance rates for each indicator for that function;
- peer group (specialty) performance data; and
- a measure comparing your performance to that of your peer group,

III. **Function Summary** - one table showing:
- your average performance rates for each function;
- peer group (specialty) performance data; and
- a measure comparing your performance to that of your peer group,

IV. **Record Documentation Summary**[2] - one table showing:
- your average performance on six measures of documentation;
- peer group (specialty) performance data; and
- a measure comparing your performance to that of your peer group,

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[2] The record documentation results are presented separately because the data were scored differently from the data for the other functions (see "How the Data Were Collected and Scored", p. O-4).

GLOSSARY

The following terms will be used on the report tables and throughout the accompanying text:

Acceptable alternative (AA). Score category: a pre-defined reason why a recommended action could not or should not have been done.

Acceptable performance. A criterion is either met or the medical record shows an acceptable alternative.

Clinical item. A specific diagnosis (eg. diabetes mellitus), test, procedure, or drug type (eg. ACE inhibitors) representative of the functions reviewed. Items were selected on the basis of their prevalence in the Medicare population. Appendix A contains a complete list of items reviewed.

Criterion. The specific actions or clinical findings which define recommended care for a given clinical item on a particular indicator.

DEMPAQ. DEMPAQ stands for Developing and Evaluating Methods to Promote Ambulatory Care Quality.

Flag. Score category: a criterion appears not to be met.

Function. An activity performed by clinicians in caring for patients; the functions reviewed by DRS are making and monitoring a DIAGNOSIS, responding to an abnormal TEST value, prescribing and monitoring a DRUG, performing a PROCEDURE, FOLLOW-UP of serious health threats, rendering PREVENTIVE or screening services, and DOCUMENTATION of the medical record,

Indicator. A rate for the performance of key tasks or processes which influence patient outcomes. For example: the rate of appropriate MONITORING an old diagnosis, the rate of prescribing a drug without CONTRAINDICATIONS, and the rate of performing procedures only if there are appropriate INDICATIONS.

Met. Score category: the medical record shows compliance with a given criterion.

New diagnosis or drug. A diagnosis which is newly made, or a drug which is newly prescribed *during* the two year review period.

Not applicable. Score category: a criterion is not applicable to the specific case being reviewed.

Not reviewable. Score category: a case cannot be scored because the medical record does not contain the entire time frame specified by the criterion.

Peer group. Physicians in your state in your specialty group.

Performance rate. The percent of cases where the medical record shows compliance or acceptable alternative for an indicator.

Pre-existing diagnosis or drug. A diagnosis which was made or a drug which was prescribed *prior* to the beginning of the two year review period.

Quartile rank. The ranking of your performance rate, where a percentile distribution of rates has been divided into four equal parts. The higher the rank (e.g., 3 or 4), the better the performance.

- A rank of 1 means your performance rate fell between the 0th and 24th percentile, inclusive
- A rank of 2 means your performance rate fell between the 25th and 49th percentile, inclusive
- A rank of 3 means your performance rate fell between the 50th and 74th percentile, inclusive
- A rank of 4 means your performance rate fell between the 75th and 99th percentile, inclusive.

Score. A way of categorizing the findings of the review. Possible scores are MET, ACCEPTABLE ALTERNATIVE (AA), and FLAG; cases considered NOT APPLICABLE and NOT REVIEWABLE receive scores of 'NA' or 'NR.'

CLINICAL ITEM REPORTS

September 24, 1993

CLINICAL ITEM REPORTS

The Clinical Item Reports present one table for each clinical item on the right-hand page and a graph on the left-hand page. The table contains data unique to your practice and for your peer group; the graph displays statewide information. The tables are grouped clinically, e.g. all the tables related to diabetes care are grouped together: diabetes diagnosis, insulin, oral hypoglycemic drugs, blood glucose test, and urinalysis dipstick

1. How to read the Clinical Item report

The function reviewed is shown in the title. The dates covered by the review appear immediately below the title. The clinical item name appears above the table, on the right; the item code, (used by the DEMPAQ self-assessment workbook) at the left. The placement of the clinical item name, on the outside edge of the table, makes it easy to find the table when flipping through the book.

Your study number appears below the review dates, along with your peer group designation. Your peer group was determined from the specialty code on the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

The following describes how to read the clinical item table.

COLUMN	DESCRIPTION
Indicator	Displays the indicators associated with the function (Drugs, Tests, etc.) listed in the title for this page.
Criterion	Presents the criteria used to construct the indicator. The criteria are unique to the clinical item shown in the top right hand corner, just above the table.
Your Rates: Number of Patients	Shows the number of patients who were included in the rate displayed in the next column. A clinical item is evaluated only once per patient. For example, if a patient has multiple abnormal creatinine values in the record, only the first found in the records you sent triggers review.
Your Rates: Percent Acceptable Performance	Displays the "percent acceptable performance" rate on a criterion. Performance is acceptable when a criterion is met or the medical record shows an acceptable alternative (see GLOSSARY for definitions). See below for information on how the rates were calculated.
Peer Group Rates: Average Number of Patients	Shows the average number of patients ***per physician*** included in the rate shown in the next column.
Peer Group Rates: Average Percent Acceptable Performance	Presents the average percent acceptable performance rate for all physicians in your peer group. See below for information on how the rates were calculated.

2. How to interpret the Clinical Item Reports
These tables will give you an idea of how often you perform selected activities for your patients 65 and older. The average rates of physicians within your specialty who submitted records for DEMPAQ review are given so you can compare your performance to your peers. **Caution:** The number of cases in these tables tends to be small, so your rates may not be representative of your customary performance.

3. Calculating the Clinical Item Rates
Figure one below shows how the acceptable performance scores (MET and AA) for each patient are added together and divided by the total number of scores for a doctor (MET + AA + FLAG) to give a performance rate for each criterion (see rows 1 and 2, below). A physician's monitoring rate is calculated by averaging individual patient monitoring scores (see row 3, below).

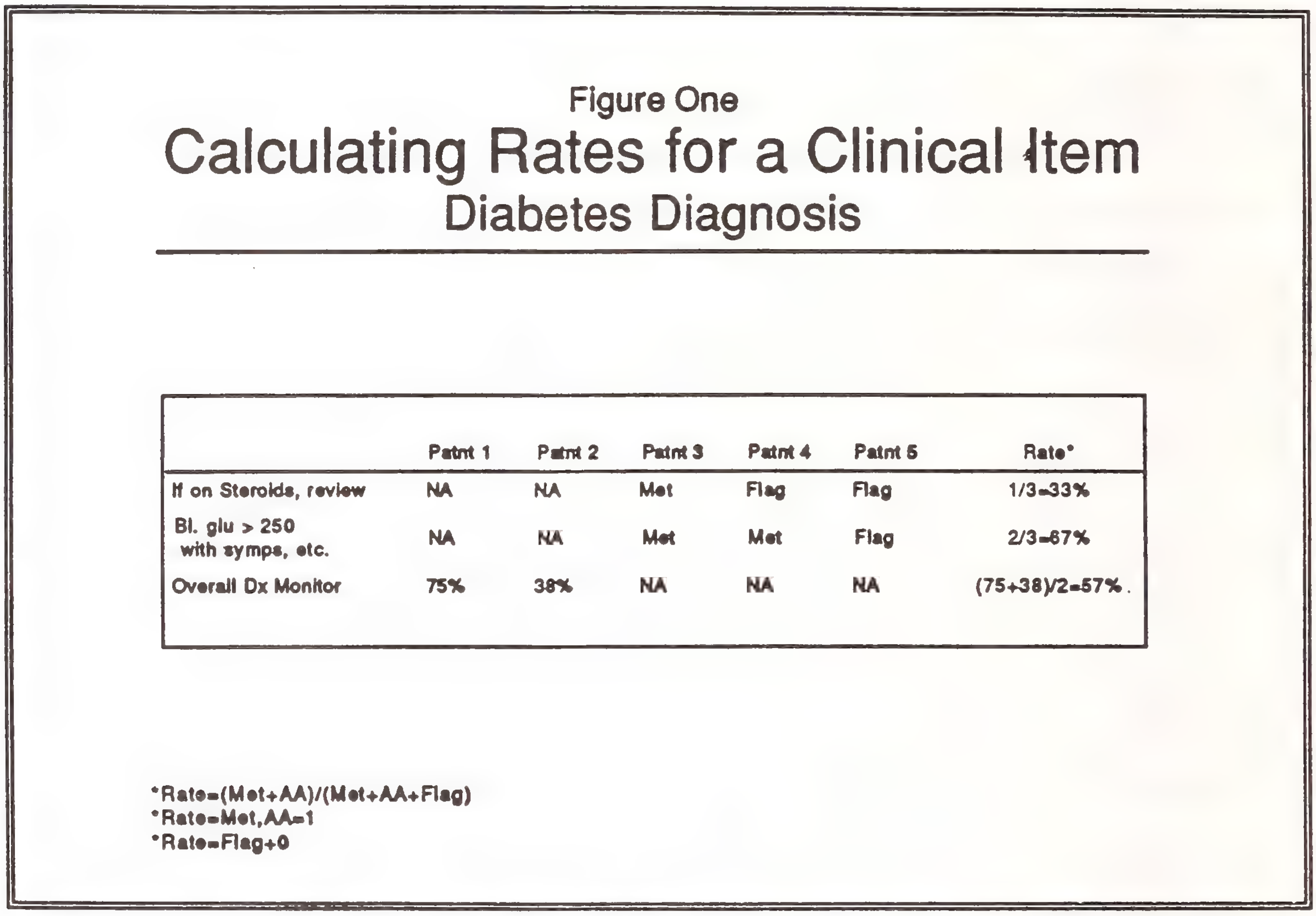


Figure One

Calculating Rates for a Clinical Item

Diabetes Diagnosis

	Patnt 1	Patnt 2	Patnt 3	Patnt 4	Patnt 5	Rate*
If on Steroids, review	NA	NA	Met	Flag	Flag	1/3=33%
Bl. glu > 250 with symps, etc.	NA	NA	Met	Met	Flag	2/3=67%
Overall Dx Monitor	75%	38%	NA	NA	NA	(75+38)/2=57%

*Rate=(Met+AA)/(Met+AA+Flag)
*Rate=Met,AA=1
*Rate=Flag+0

Each monitoring rate may be derived from up to eight individual monitoring scores. Overall monitoring rates are the percentage of monitoring criteria with met or acceptable alternative findings. In the example below, patient number one has 6 met or AA scores on the individual criteria, one flag score and one score which is not included in either the numerator or the denominator. Thus, the overall monitoring rate for patient one is 86%.

Figure Two

Calculating Rates for Monitoring

Diabetes Diagnosis

	Patient 1	Patient 2	Rate*
Overall Dx Monitor Rate	6/7=86%	3/8=38%	(75+38)/2=57%
Comment control	Met	Flag	1/2 = 50%
Wt, pulse, BP	Met	Met	2/2 = 100%
HgbA1C	Flag	Flag	0/2 = 0%
U/A Dipstick	Met	Met	2/2 = 100%
Blood Glucose	AA	Met	2/2 = 100%
Diet Comply	AA	Flag	1/2 = 50%
Heart, leg, foot exam	Met	Flag	1/2 = 50%
Fundoscopy	NR	Flag	1/2 = 50%

*For Criteria: Rate=(Met+AA)/(Met+AA+Flag)
*For Overall: Rate= average of overall rates
*Met,AA = 1: Flag= 0

4. Calculating peer group rates

Peer group rates are constructed by averaging individual physician performance rates, by specialty. Only physicians who submitted records for the DEMPAQ review are included in the peer group rate.

5. What is NOT included in these tables

Several clinical items have been excluded from this report, although data were collected for them. These clinical items appear in the DEMPAQ workbook. The items were excluded for one of two reasons: either there were too few cases to report (less than 30 in the entire state) or problems with the criteria and abstracting instructions lead to unusable results. Excluded items include:

- Adrenergic neuron blockers
- Direct acting vasodilators
- Potassium sparing diuretics
- Alpha blocker + thiazide
- Beta blocker + thiazide
- Centrally acting + thiazide
- Antiadrenergic + Thiazide+ Vasodilator
- Vasodilator + thiazide
- Antiadrenergic + vasodilator
- Corticosteroids
- Salicylate
- NSAIDs
- Oral beta-adrenergic + xanthine
- Penicillin
- Antipseudomonal penicillin
- Sulfonamide
- ESR test
- Blood gases
- Joint X-ray
- Rheumatoid arthritis
- Flexible Sigmoidoscopy
- Colonoscopy

6. Where to go for more information

The DEMPAQ Self-Assessment Workbook contains the full text for each of the criteria shown on these tables with references to the medical texts and guidelines from which the criteria were derived. If you wish more information about why a particular criterion was selected, the Workbook will supply that information.

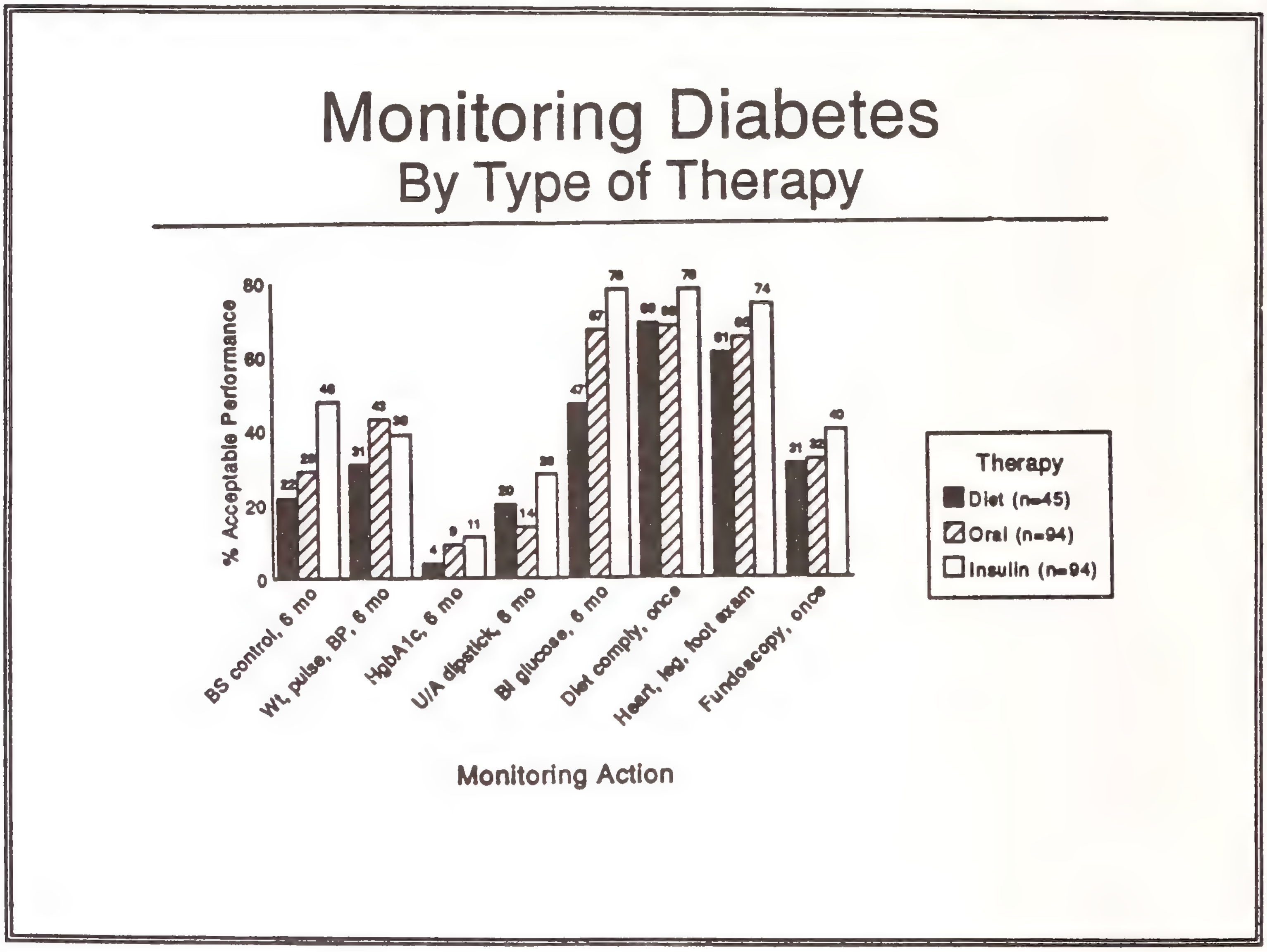
The tables in the next two sections, the Indicator Summary and Function Summary reports, provide aggregate information about performance.

DIABETES

DIABETES

The table on the opposite page displays the results of the review of your diabetic patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the diabetes criteria compared to your specialty group rates.

The figure below shows old diagnosis monitoring by three different types of therapy for the entire state of Maryland.



CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 05

DIABETES

Indicator	Criterion	Peer Group Rates*	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	2.7	62%
	Comment on bl. glucose control - q. 6 mos	2.4	42%
	Weight, pulse, BP - q. 6 mos	2.4	59%
	HgbA1C or fructosamine - q. 6 mos	2.5	13%
	Urinalysis dipstick for protein and microscopic exam of sediment - q. 6 mos	2.4	20%
	Bl. glucose - q. 6 mos	2.4	74%
	Document dietary compliance - once	2.5	69%
	Heart exam, leg and foot exam - once	2.6	80%
	Fundoscopy - once	2.5	48%
Evidence for a New Diagnosis	Bl. glucose >250 with symptoms of DM OR two FBS >140 OR bl. glucose levels during GTT >250 at 2 hrs and some point between 0 and 2 hrs	0.3	44%
Search for Treatable Causes	If on steroids, possible potentiating role reviewed	0.3	0%

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[*] The data in this column are based on 36 physicians who treated 97 patients with pre-existing diagnoses and 10 patients with new diagnoses.

INSULIN

The table on the opposite page displays the results of the review of those patients on insulin, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the insulin criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Regular	Iletin
Regular+Isophane	Mixtard
Regular, human	Humulin
Regular+Isophane	Humulin 70/30, Mixtard 70/30, Novolin 70/30
Isophane (NPH)	NPH Iletin
Isophane, human	Humulin N
Zinc	Lente Iletin
Zinc, human	Humulin L, Novolin L
Extended Zinc	Ultralente Iletin
Extended Zinc, human	Humulin U Ultralente
Prompt Zinc	Semilente Iletin
Protamine Zinc	Protamine Zinc & Iletin

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 31

INSULIN

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1.9	93%
	Dose Documented	1.9	93%
	Frequency Documented	1.9	93%
Drug Indications	Drug prescribed appropriately for: Insulin-dependent/non-insulin-dependent DM	0.0	100%
Condition Contraindications	NA		
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Fenfluramin, long-term high-dose corticosteroid therapy, beta blockers	1.9	100%
Drug Monitoring	Overall Monitoring Score	1.7	77%
	Old Drugs:		
	Blood glucose - q. 3 mos	1.7	54%
	HgbA1C or fructosamine - once	1.7	49%
	New Drugs:		
	Blood glucose - within 3 mos start of therapy	0.0	%
	HgbA1C or fructosamine - within 3 mos start of therapy	0.0	%
	If on beta blocker, educate re hypoglycemia.	0.0	%

ORAL HYPOGLYCEMIC

The table on the opposite page displays the results of the review of those patients on oral hypoglycemic drugs, with comparison to your specialty. The five drug indicators are displayed in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Acetohexamide	Dymelor
Chlorpropamid	Diabinese, Glucamide
Glipizide	Glucotrol
Glyburide	Diabeta, Micronase
Tolazamide	Tolamide, Tolinase
Tolbutamide	Oramide,Orinase

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 32 **ORAL HYPOGLYCEMIC**

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1.8	91%
	Dose Documented	1.8	95%
	Frequency Documented	1.8	91%
Drug Indications	Drug prescribed appropriately for: DM, non-insulin-dependent or diabetes insipidus, partial central	0.3	78%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Patient >65 (chlorpropamide), renal impairment (glyburide)	0.3	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Beta blockers, insulin **Risk/benefit:** Phenytoin, long-term high-dose corticosteroids, anticoagulants, thiazides, calcium channel blockers, long-term high-dose salicylates, captopril	1.8	77%
Drug Monitoring	Overall Monitoring Score	1.6	79%
	Old Drugs:		
	Blood glucose - q. 3 mos	1.3	41%
	HgbA1C - once	1.2	39%
	If on anticoagulants - PT q. 1 mo	0.0	0%

(cont.)

+ The data in this column are based on 27 physicians who treated 40 patients with pre-existing prescriptions and 9 patients with new prescriptions.

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	New Drugs:		
	Bl. glucose - within 3 mos start of therapy	0.2	100%
	HgbA1C - within 3 mos start of therapy	0.2	33%
	If on anticoagulants - PT within 1 wk start of therapy	0.0	%
	If on beta blockers, note in record re education to patient about hypoglycemia	0.0	0%
	If on chlorpropamide - Na+ within 1 mo start of therapy	0.0	%

+ The data in this column are based on 27 physicians who treated 40 patients with pre-existing prescriptions and 9 patients with new prescriptions.

BLOOD GLUCOSE

The table on the opposite page displays the results of the review of those patients with abnormal blood glucose tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 05 GLUCOSE-FASTING AND RANDOM BLOOD LEVELS

Indicator	Criterion	Peer Group Rates*	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Annually if obese, family history of diabetes, or had gestational diabetes:** **Conditions:** Alcoholism, polyuria, polydipsia, polyphagia, wt loss, visual changes, glycosuria, DM, confirm self-monitoring values	2.4	92%
Test Urgent Response	Patient referred to hospital or ER for lab values: Glucose >400 with ketonuria and metabolic ketoacidosis OR glucose >700 and change in mental status.	0.0	100%
Test Response	Overall score:	2.3	72%
	Abnormal test results appropriately followed up:		
	Not Known to be Diabetic:		
	Glucose <50: Within 1 wk repeat glucose after 12-hr fast OR get plasma insulin.	0.1	67%
	Blood glucose >140 (if known to be fasting): Within 1 mo recheck before diagnosing DM, either with fasting glucose, glucose tol. test, OR 2-hr post-prandial test. Perform dipstick urinalysis for glycosuria/ketonuria. Review results within 2 wks.	0.1	33%
	Glucose >250: Within 3 mos dipstick urinalysis for glycosuria/ketonuria and if ketones positive, perform FBS OR bl. glucose at timed relationship to intake and serum electrolytes. Review results in 1 wk. If ketones neg., recheck bl. glucose at a known time interval after intake OR perform fasting bl. glucose.	0.0	100%
	Glucose >250 and urine ketones positive: Within 2 days bl. glucose, fasting or at timed relationship to intake and serum electrolytes. Review results within 1 wk.	0.0	%
	Glucose >250 but symptoms of wt loss, excess fluid intake, excess urine: Within 1 wk diagnose diabetes and start therapy with dietary advice, with or w/o oral hypoglycemic or insulin therapy. Review results within 1 wk.	0.0	%

(cont'd)

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* The data in this column are based on 26 physicians and 62 patients.

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	Known to be Diabetic:		
	Glucose <50: Within 2 days ask if symptoms of hypoglycemia; if yes, decr. dose of oral agent (or disc. if low dose) OR decr. insulin dose.	0.0	100%
	Bl. glucose >250 (not known to be fasting) or >170 (fasting): Within 1 wk start or incr. dose of oral antidiabetic OR start insulin therapy OR change insulin regime unless noted why action not performed (e.g., infec., stress, poor dietary compliance).	2.0	79%

URINALYSIS

The table on the opposite page displays the results of the review of those patients with abnormal urinalysis tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the urinalysis criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests

Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 09 **URINE DIPSTICK**

		Peer Group Rates*	
Indicator	**Criterion**	**Average Number of Patients per Physician**	**Average Percent Acceptable Performance**
Test Indications	Tests ordered appropriately for: **Conditions: Any Visit:** Suspicion of urinary tract infec., known DM, HTN, trauma, kidney stones, susp. of renal or urinary tract disease, disease that may affect renal func., polyuria, oliguria, on drugs that may affect renal func.	2.8	99%
Test Urgent Response	Patient referred to hospital or ER for lab values: 4+ ketones with or w/o glucose (unless on diet or fasting)	0.0	0%
Test Response	Overall score: Abnormal test results appropriately followed up:	2.8	82%
	≥3 + urine glucose in diab: Within 1 wk check dietary and med. compl. and change therapy if req. If in nondiabetic, within 1 wk check bl. glucose at timed relationship to food intake, check urine ketones. Review results in 1 mo.	0.3	88%
	≥1 + protein, new finding, no known diab: Within 2 wks check urine cult. or leukocyte esterase. If infec., treat appropriately OR if not infec., within 2 wks check early a.m. urine sediment and dipstick and serum creat. If early a.m. proteinuria found, check 24-hr urine for protein. Rev. results in 1 mo.	0.6	65%
	≥1 + protein, new finding, known diab. or HTN, or drugs that affect kidney func: Within 2 wks check urine cult. and serum creat. If infec., treat with antibiotics. See patient to review results within 1 mo. OR if no infec., within 2 wks check urine sediment, serum creat. See patient to review findings in 2 wks or req. consult or referral.	0.5	83%

(cont'd)

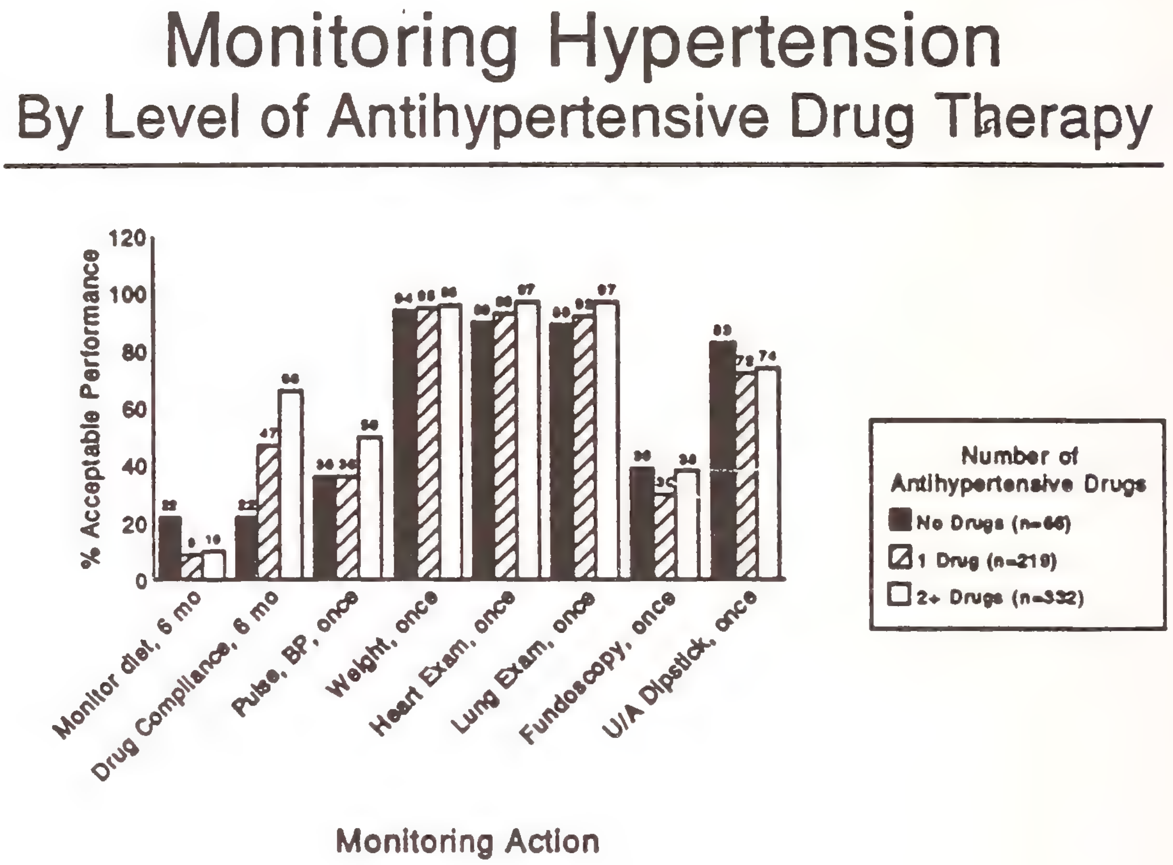
* The data in this column are based on 29 physicians and 82 patients.

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	4+ protein, no DM, repeat urinalysis. Check serum creat., quantitative protein, or creat/protein ratio. If >3g protein in 24 hrs or equivalent on spot urine, do urine immunoassay, electrophoresis, and review results within 1 mo OR request consult OR referral.	0.1	67%
	1+ leukocyte esterase: Within 1 wk check urine cult. or microsc. exam. If positive, start treatment.	0.8	85%
	≥1+ ketones, no urine glucose: Within 1 wk review history for fasting, dehydration, alcohol use. Hydrate and review patient by next day. OR ≥1+ ketones and urine glucose: Within 1 wk check bl. glucose at known relationship to food intake, serum total CO_2 and ketones. REview by next day.	0.0	0%
	≥1+ heme: Within 2 wks check for urinary infec. If infec., treat with antibiotic. OR ≥1+ heme, no urinary infec., with ≥1+ proteinuria: Within 2 wks microsc. exam of urine sediment. If hematuria confirmed and red cell casts seen, refer to nephrology. If no red cell casts seen, do IVP AND/OR cystoscopy AND/OR ultrasound. OR ≥1+ heme, no urine infec., no proteinuria: Within 2 wks prostate exam in male, pelvic exam in female. Do IVP AND/OR cystoscopy AND/OR ultrasound.	0.4	91%

HYPERTENSION

The table on the opposite page displays the results of the review of your hypertensive patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the hypertension criteria compared to your specialty group rates.

The figure below presents statewide data for patients with hypertension.



CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 01 **HYPERTENSION**

Indicator	Criterion	Peer Group Rates*	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	7.1	74%
	Monitor diet - q. 6 mos	6.0	18%
	Monitor drug compliance (if applicable) - q. 6 mos	5.5	62%
	Pulse, BP - q. 6 mos	6.0	47%
	Weight - once	7.1	99%
	Heart exam - once	7.0	98%
	Lung exam - once	7.1	98%
	Fundoscopy - once	6.3	39%
	U/A dipstick for protein - once	6.5	79%
Evidence for a New Diagnosis	DBP ≥90 on two occasions OR SBP ≥140 on two occasions OR any DBP ≥130	0.5	84%
Search for Treatable Causes	If DBP >105 on two occasions, look for renal disease AND hyperaldosteronism AND obesity AND inq. re alcohol intake AND if on hypertensive med., possible causative role.	0.5	9%

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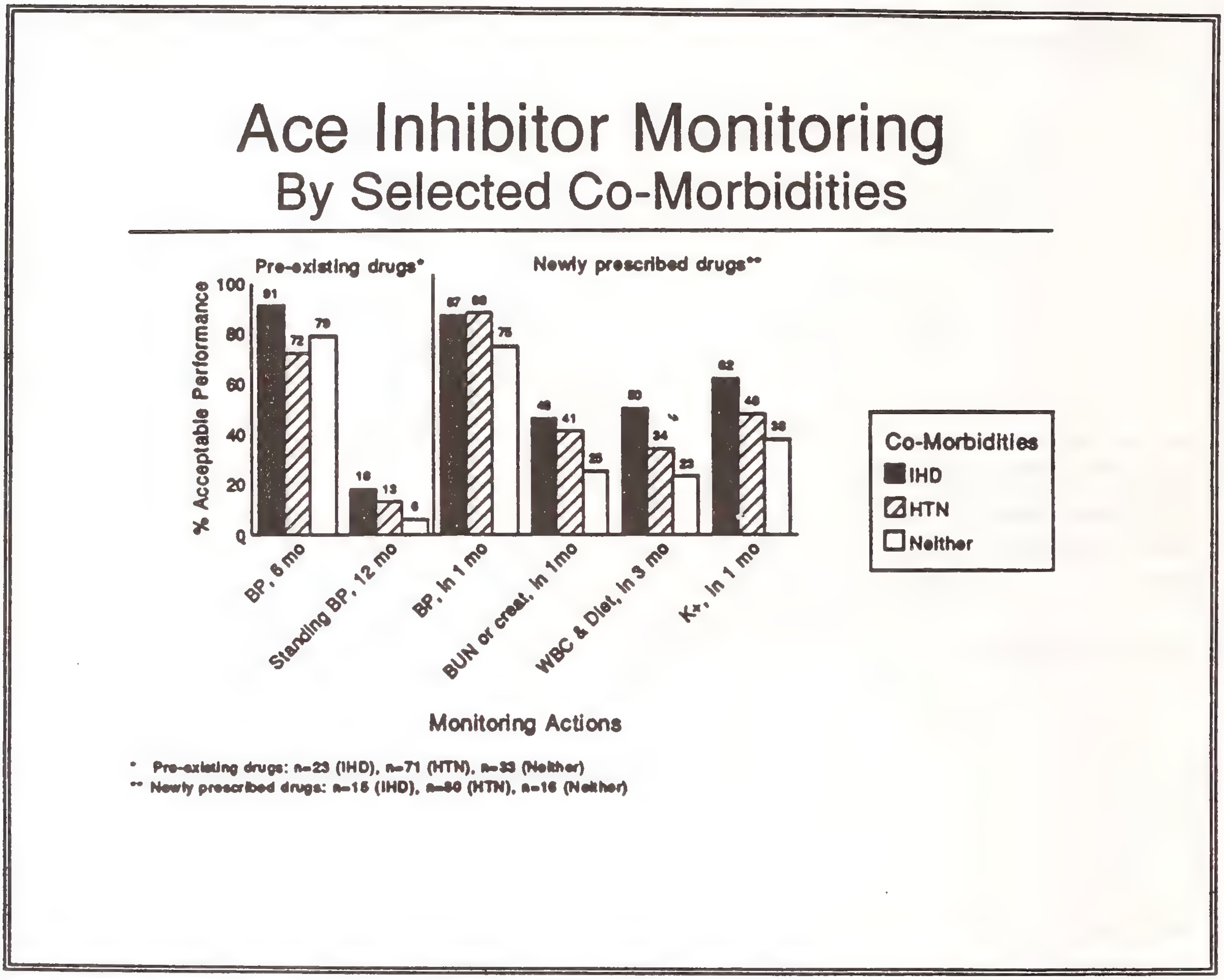
* The data in this column are based on 40 physicians who treated 284 patients with pre-existing diagnoses and 21 patients with new diagnoses.

ACE INHIBITORS

The table on the opposite page displays the results of the review of those patients on ACE inhibitors, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the ACE Inhibitor criteria compared to your specialty group rates.

The figure below presents statewide data for all patients taking ACE inhibitors.



* Pre-existing drugs: n=23 (IHD), n=71 (HTN), n=33 (Neither)
** Newly prescribed drugs: n=15 (IHD), n=80 (HTN), n=16 (Neither)

Drugs within this class

Generic	Trade
Captopril	Capoten
Enalapril	Vasotec
Lisinopril	Prinivil, Zenstril

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 01 ANGIOTENSIN-CONVERTING ENZYME (ACE) INHIBITOR

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	3.3	94%
	Dose Documented	3.3	98%
	Frequency Documented	3.3	94%
Drug Indications	Drug prescribed appropriately for: HTN, CHF, Bartter's syndrome	1.3	96%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Risk/benefit:** Angioedema, hyperkalemia, COPD, chronic cough	1.3	96%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Potassium-sparing diuretics	3.3	97%
Drug Monitoring	Overall Monitoring Score	2.9	54%
	Old Drugs:		
	BP - q. 6 mos, regular	1.7	80%
	BP - q. 12 mos, standing	1.5	8%
	If renal dis. - BUN or creat. q. 3 mos	0.2	25%
	New Drugs:		
	BP - within 1 mo start of therapy	1.2	77%
	BUN or creat. - within 1 mo	1.2	57%
	WBC and diff. - within 3 mos	0.9	46%
	K+ - within 1 mo	1.1	55%
	If renal dis.- BUN or creat. within 3 mos	0.0	100%

+ The data in this column are based on 38 physicians who treated 78 patients with new prescriptions and 49patients with pre-existing prescriptions.

ALPHA BLOCKERS

The table on the opposite page displays the results of the review of those patients on alpha blockers, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the alpha blocker criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Prazosin	Minipress
Terazosin	Hytrin

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 03 ANTIADRENERGIC - PERIPHERAL ALPHA BLOCKER

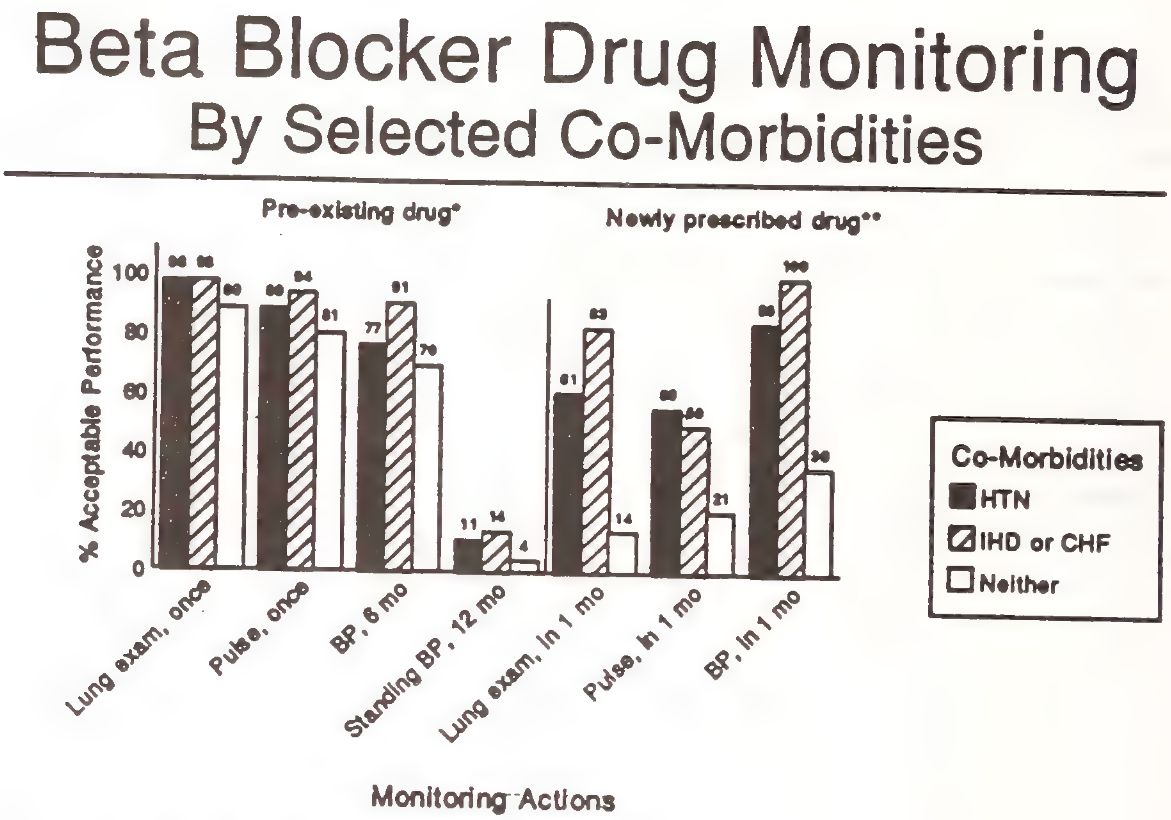
Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1.3	100%
	Dose Documented	1.3	100%
	Frequency Documented	1.3	100%
Drug Indications	Drug prescribed appropriately for: HTN, CHF, Raynaud's phen., bladder outlet obstr., benign prostatic hypertrophy	0.6	89%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: Risk/benefit: Orthostatic hypotension	0.6	100%
Drug Contraindications	NA		
Drug Monitoring	Overall Monitoring Score	1.0	69%
	Old Drugs:		
	BP - q. 6 mos, regular	0.5	100%
	BP - q. 12 mos, standing	0.3	0%
	If CHF - wt and lung exam q. 6 mos	0.1	100%
	New Drugs:		
	BP - within 1 mo start of therapy	0.5	75%
	If CHF - wt and lung exam within 1 mo start of therapy	0.1	0%
	If angina - within 1 mo start of therapy educate patient re possible exacerbation	0.0	%
	If incontinence - follow-up visit within 1 mo start of therapy	0.0	%

+ The data in this column are based on15 physicians, who saw11 patients with pre-existing prescriptions and 9 patients with new prescriptions.

BETA BLOCKERS

The table on the opposite page displays the results of the review of those patients on beta blockers, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the beta blocker criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking beta blockers.



* Pre-existing drugs: n=96 (HTN), n=47 (IHD/CHF), n=44 (Neither)

** Newly prescribed drugs: n=18 (HTN), n=6 (IHD/CHF), n=14 (Neither)

Drugs within this class

Generic	Trade
Acebutolol	Sectral
Atenolol	Tenormin
Carteolol	Cartrol
Labetalol	Normodyne, Trandate
Metoprolol	Lopressor
Nadolol	Corgard
Penbutolol	Levatol
Pindolol	Visken
Propranolol	Inderal
Timolol	Blocadren
Kerlone	Betaxolol

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 04 **ANTIADRENERGIC - BETA BLOCKER**

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	3.1	89%
	Dose Documented	3.1	93%
	Frequency Documented	3.1	89%
Drug Indications	Drug prescribed appropriately for: Angina, vent. arrhyth., HTN, hypertrophic cardiomyopathy, myocardial reinfarct prophylaxis, pheochromocytoma, vascular headache prophylaxis, non-Parkinson's tremor, "stage-fright" anxiety, thyrotoxicosis, Barlow's synd., atrial arrhythmias	0.5	86%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Heart block, asthma, COPD **Risk/benefit:** Mental depression, Raynaud's phen., intermittent claudication	0.5	89%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Calcium ch. blockers, oral antidiabetic agents, insulin, indomethacin, Timolol eyedrops	3.1	94%
Drug Monitoring	Overall Monitoring Score	3.0	78%
	Old Drugs:		
	Lung exam - once	2.5	98%
	Pulse rate - once	2.5	90%
	BP - q. 6 mos, regular	1.7	81%

+ The data in this column are based on 36 physicians who treated 92 patients with new prescriptions and 19 patients with pre-existing prescriptions.

(cont'd)

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	BP - q. 12 mos, standing	1.6	14%
	If depression - mental state (mood) once	0.3	100%
	If asthma or emphysema - lung exam once	0.3	100%
	New Drugs:		
	Lung exam - within 1 mo start of therapy	0.4	50%
	Pulse rate - within 1 mo start of therapy	0.4	50%
	BP - within 1 mo stgart of therapy	0.5	69%
	If depression - mental state within 3 mos	0.1	100%
	If on oral hypoglycemia or insulin, educate patient re masking of hypoglycemia	0.0	0%
	If asthma/emphysema - lung exam within 1 mo start of therapy	0.1	100%

+ The data in this column are based on 36 physicians who treated 92 patients with new prescriptions and 19 patients with pre-existing prescriptions.

CENTRALLY ACTING ANTIADRENERGIC

The table on the opposite page displays the results of the review of those patients on centrally acting antiadrenergic drugs, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the centrally acting drug criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Clonidine	Catapres (includes patches)
Guanabenz	Wytensin
Guanfacine	Tenex
Methyldopa	Aldomet
Reserpine	Serpasil

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 05 ANTIADRENERGIC - CENTRALLY ACTING

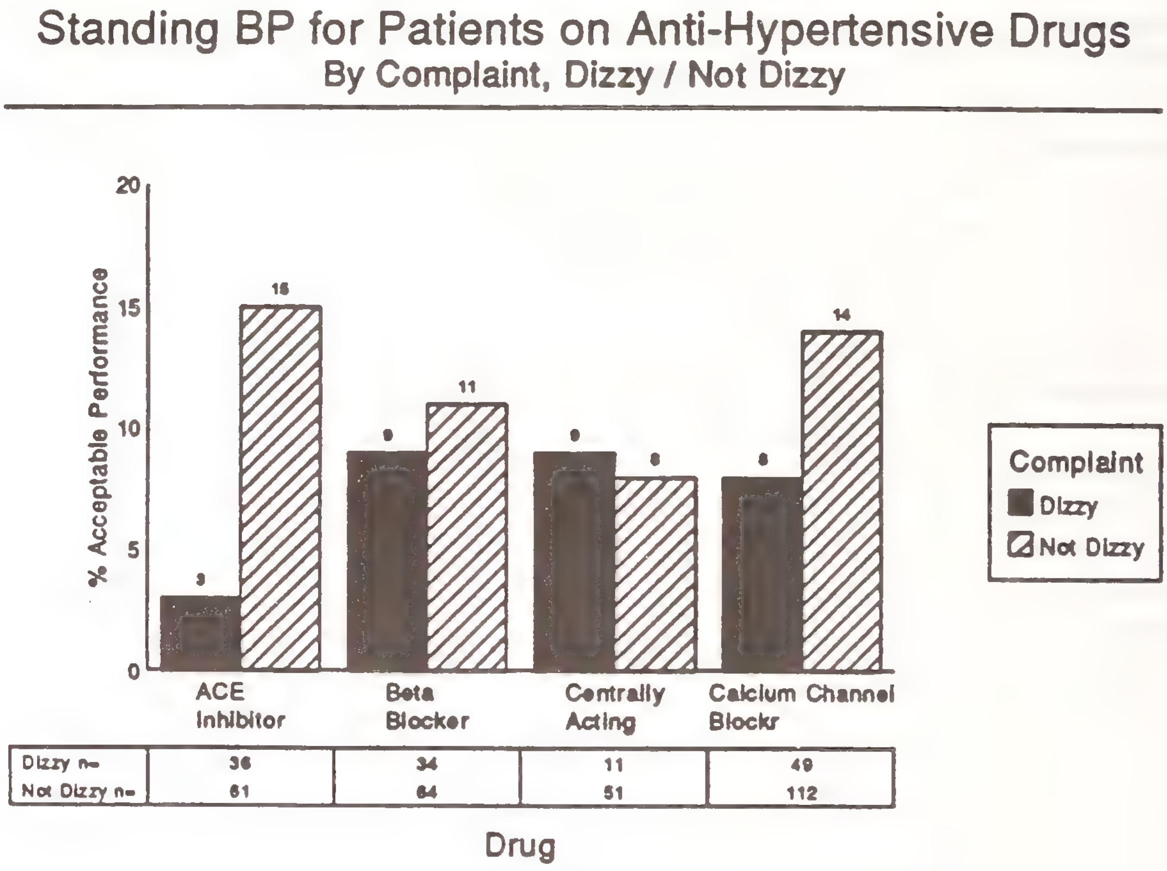
Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.2	92%
	Dose Documented	2.2	93%
	Frequency Documented	2.2	92%
Drug Indications	Drug prescribed appropriately for: HTN; headache, vascular; nicotine dependence	0.7	87%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Hepatic disease (active) **Risk/benefit:** Mental depression	0.7	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Tricyclic antidepressants, monoamine oxidase inhibitors	2.2	98%
Drug Monitoring	Overall Monitoring Score	1.8	64%
	Old Drugs:		
	BP - q. 6 mos, regular	1.0	77%
	BP - q. 12 mos, standing	0.8	7%
	Mental status (mood) - once	1.0	73%
	If methyldopa - CBC, Hct once	0.2	100%
	New Drugs:		
	BP - within 1 mo start of therapy	0.6	85%
	Mental status (mood) - within 3 mos	0.5	89%
	If methyldopa - HCT, CBC within 3 mos	0.0	0%
	If methyldopa - SGOT, SGPT within 3 mos	0.0	0%

+ The data in this column are based on 22 physicians, who saw 32 patients with pre-existing prescriptions and16 patients with new prescriptions.

CALCIUM CHANNEL BLOCKER

The table on the opposite page displays the results of the review of those patients on calcium channel blockers with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the calcium channel criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking calcium channel blockers.



	ACE Inhibitor	Beta Blocker	Centrally Acting	Calcium Channel Blockr
Dizzy n=	36	34	11	49
Not Dizzy n=	61	64	51	112

Drugs within this class

Generic	Trade
Diltiazem	Cardizem
Nicardipine	Cardene
Nifedipine	Adalat, Procardia
Verapamil	Calan, Isoptin, Verelan

CLINICAL ITEM REPORT- Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 06 CALCIUM CHANNEL BLOCKER

Indicator	Criterion	Peer Group Rates* Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	4.8	87%
	Dose Documented	4.8	90%
	Frequency Documented	4.8	87%
Drug Indications	Drug prescribed appropriately for: Angina, HTN, Raynaud's phen., hypertrophic cardiomyopathy, migraine	1.3	85%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Heart block, sick sinus synd., Wolff-Parkinson-White synd. **Risk/benefit:** Bradycardia, CHF	1.3	99%
Drug Contraindications	NA		
Drug Monitoring	Overall Monitoring Score	4.0	54%
	Old Drugs:		
	BP - q. 6 mos, regular	2.7	82%
	BP - q. 12 mos, standing	2.5	11%
	New Drugs:		
	BP - within 1 mo start of therapy	1.2	83%
	Pulse - within 1 mo start of therapy	1.2	56%
	If taking beta blocker - pulse rate and rhythm or ECG within 1 mo start of therapy	0.1	75%
	If on digoxin and add verapamil - digitalis level or lower digoxin dose within 1 mo start of therapy	0.0	%

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* The data in this column are based on 40 physicians who treated 139 patients with new prescriptions and 53 patients with pre-existing prescriptions.

ACE INHIBITOR + THIAZIDE DIURETIC

The table on the opposite page displays the results of the review of those patients on combination ACE inhibitor/thiazide diuretic with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Hydrochlorothiazide+Captopril	Capozide
Hydrochlorothiazide+Enalapril	Vaseretic
Hydrochlorothiazide+Lisinopril	Prinizide, Zestoretic

CLINICAL ITEM REPORT - Drugs

Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 11 **ACE INHIBITOR + THIAZIDE DIURETIC**

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1.1	91%
	Dose Documented	1.1	100%
	Frequency Documented	1.1	91%
Drug Indications	Drug prescribed appropriately for: HTN if stepped therapy fails	0.5	80%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Severe renal impairment, hypercalcemia, hyperuricemia **Risk/benefit:** Angioedema, hyperkalemia, gout, COPD, impaired hepatic function, SLE	0.5	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Oral anti-diabetic agents, insulin, long-term high-dose corticosteroid therapy	1.1	100%
Drug Monitoring	Overall Monitoring Score	0.8	53%
	Old Drugs:		
	BP - q 6 mos, regular	0.3	100%
	BP - q. 12 mos, standing	0.3	0%
	BUN or creat. - q. 6 mos	0.3	0%
	Na+ and K+ - q. 6 mos	0.3	0%
	If on lithium - lithium levels q. 3 mos	0.0	%
	If diabetes - bl. glucose q. 3 mos	0.3	67%
	If long-term steroids - K+ q. 3 mos	0.0	%
	If impaired liver function - K+ and Na+ q. 3 mos	0.0	%

(cont'd)

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	New Drugs:		
	BP - within 1 mo	0.5	100%
	BUN or creat. - within 1 mo	0.5	60%
	Na+ and K+ - within 1 mo	0.5	60%
	WBC and diff. - within 3 mos	0.5	20%
	If diabetes - bl. glucose within 3 mos	0.0	%
	If lithium - lithium levels within 3 mos	0.0	%
	If on long-term steroids - K+ within 3 mos	0.0	%
	If impaired liver function - Na+ and K+ within 3 mos	0.0	%

+ The data in this column are based on 11 physicians, who saw 7 patients with pre-existing prescriptions and 5 patients with new prescriptions.

BLOOD PRESSURE

The table on the opposite page displays the results of the review of those patients with abnormal blood pressure tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 01 **BLOOD PRESSURE - DIASTOLIC BLOOD PRESSURE ≥90**

Indicator	Criterion	Peer Group Rates*	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Drug Monitoring:** Estrogen, ethanol, steroids, thyroxin, non-steroidals, bronchodilators **Conditions:** HTN, cor. artery disease, renal disease, diabetes	3.0	100%
Test Urgent Response	Patient referred to hospital or ER for lab values: If patient not known hypertensive, diast. BP >130 If patient hypertensive on treatment, diast. BP >140	0.0	%
Test Response	Overall score:	1.6	63%
	Abnormal test results appropriately followed up:		
	Diast. BP 90-104 at least twice as new finding: Within 1 wk, treat w/no added salt, wt reduction, lower alcohol. If on HTN-prod.med., decr. or disc. Retest within 2 mos.	0.3	14%
	Diast. BP 105-114 at least twice as new finding: Within 1 wk, treat as above OR drug therapy as below. Retest within 1 wk.	0.0	100%
	Diast. BP 115-130 at least twice as new finding: Within 1 day, initiate therapy w/1 or more anti-HTN med. Retest within 2 wks.	0.0	%
	Diast. BP 90-104 and previously abnormal: Within 1 wk, reaffirm treatment. Add, incr., or subst. meds unless patient not complying w/current. Retest within 3 mos. If not controlled within 6 mos and not on 2-drug therapy, req. consult. OR referral.	1.2	72%
	Diast. BP >105 and previously abnormal: Within 1 day, add, incr., or subst. meds unless patient not complying with current. Retest within 3 mos. If not controlled within 6 mos and not on 2- or 3-drug therapy, req. consult. OR referral.	0.1	100%
	Diast. BP >105, previously abnormal, and on 3-drug therapy more than 3 mos: Within 1 day, referral or workup. Retest within 3 mos. If not controlled within 3 mos, req. consult. OR referral.	0.0	%

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* The data in this column are based on: 37 physicians and 112 patients.

SERUM CREATININE

The table on the opposite page displays the results of the review of those patients with abnormal serum creatinine tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 07 **CREATININE - SERUM CREATININE >1.5**

Indicator	Criterion	Peer Group Rates*	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions:** Renal disease, HTN, diabetes, CHF, new onset proteinuria or abnorm. urine cell count, ACE inh., nonsteroidal anti-inflamm. drugs, all drugs mainly excreted through kidneys	2.1	98%
Test Urgent Response	Patient referred to hospital or ER for lab values: New value creat. >10	0.0	%
Test Response	Overall score:	2.1	46%
	Abnormal test results appropriately followed up:		
	Not Known Renal Disease:		
	New finding creat. 1.5-2.5: Within 1 mo, if on drugs that affect renal func., decr. or disc. meds. Check urine sediment exam and culture, and retest serum creat. within 3 mos. If still abnorm., req. consult OR referral.	1.9	49%
	New finding >2.5 and if on drugs that affect renal func.: Within 2 wks decr. or disc. meds. Check urinary sediment exam and culture and check 24-hr urine collection for creat. clearance. Retest creat. within 2 mos.	0.1	0%
	Known Renal Disease:		
	Creat. incr. >50% above that patient's prior baseline: Within 2 wks, if on drugs that affect renal func., decr. or disc. meds. Check urinary sediment exam and culture and creat. clearance. If creat. clearance has fallen, req. consult OR referral within 2 mos.	0.1	33%

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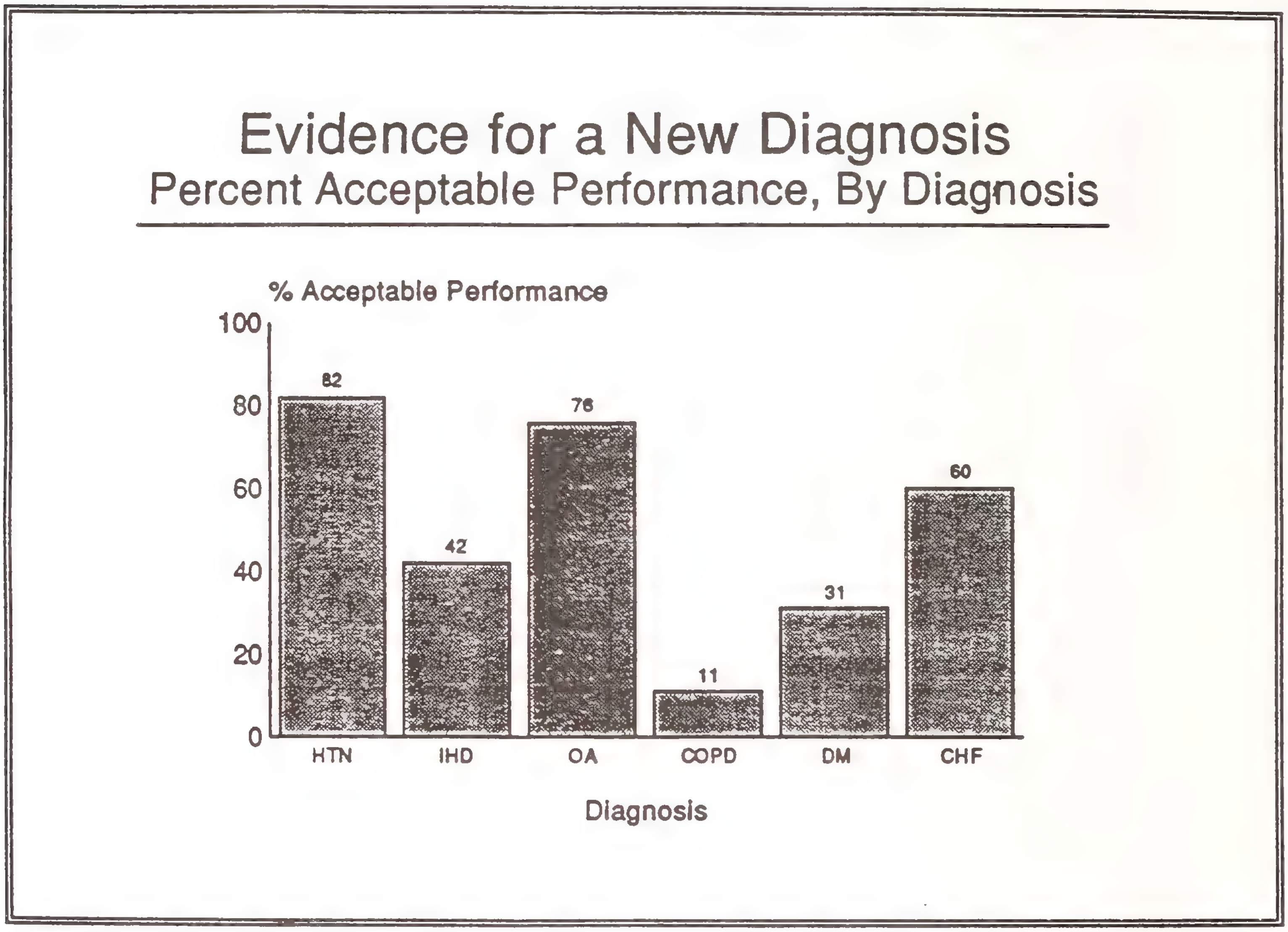
* The data in this column are based on 30 physicians and 63 patients.

ISCHEMIC HEART DISEASE

The table on the opposite page displays the results of the review of your ischemic heart disease patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with ischemic heart disease.



Evidence for a New Diagnosis
Percent Acceptable Performance, By Diagnosis

CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

Code: 02

ISCHEMIC HEART DISEASE

Indicator	Criterion	Peer Group Rates*	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	2.5	97%
	Stability of symptoms - once	2.5	100%
	Weight gain - once	2.4	99%
	Dyspnea - once	2.4	96%
	Review compliance (diet, drugs, smoking, alcohol, if applicable) - once	2.4	95%
	Weight - once	2.5	99%
	Heart exam - once	2.5	100%
	Lung exam - once	2.5	100%
	Pulse, BP - once	2.5	89%
Evidence for a New Diagnosis	Cardiac chest pain OR exercise tolerance test OR positive cardiac catheterization	0.6	57%
Search for Treatable Causes	HTN AND valvular heart disease AND anemia AND inq. re smoking habits AND obesity AND serum cholesterol AND bl. glucose	0.6	55%

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* The data in this column are based on 30 physicians who treated 76 patients with pre-existing diagnoses and 18 patients with new diagnoses.

NITRATES

The table on the opposite page displays the results of the review of those patients on nitrates with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the nitrate criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Erythrityl tetranitrate	Cardilate
Isosorbide dinitrate	Dilatrate SR, Iso-Bid, Isonate, Isorbid, Isordil, Isotrate, Sorbitrate
Nitroglycerin (buccal,lingual, oral, sublingual)	Nitro-Bid, Nitrocap, Nitrogard, Nitroglyn, Nitrol, Nitrolin, Nitrolingual, Nitronet, Nitrospan Nitrostat, Tridil
Nitroglycerin (transdermal)	Deponit, Nitrocine, Nitrodisc, Nitro-Dur, NTS, Transderm-Nitro
Pentaerythritol tetranitrate	Duotrate, Naptrate, Pentritil, Pentylan, Peritrate

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 21 NITRATE

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.9	77%
	Dose Documented	2.9	81%
	Frequency Documented	2.9	83%
Drug Indications	Drug prescribed appropriately for: Angina, CHF	0.3	44%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Orthostatic hypotension	0.3	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Transdermal nitrates not to be used continuously for 24 hrs. **Risk/benefit:** None	2.9	99%
Drug Monitoring	Overall Monitoring Score	0.9	80%
	Old Drugs:		
	If CHF - weight and lung exam every 6 mos	0.8	92%
	New Drugs:		
	If angina - educate patient re possible exacerbation.	0.1	33%
	If CHF - weight and lung exam within 1 mo start of therapy	0.0	0%

CHOLESTEROL

The table on the opposite page displays the results of the review of those patients with abnormal cholesterol tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 03 **CHOLESTEROL - TOTAL CHOLESTEROL >240**

Indicator	Criterion	Peer Group Rates*	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions:** Once q. 2 yrs - Family hypercholesterolemia, IHD, HTN, diuretics (incr.LDL), B-blockers (decr.HDL), diabetes	2.9	100%
Test Urgent Response	NA		
Test Response	Overall score:	2.3	67%
	Abnormal test results appropriately followed up:		
	Total cholesterol >240 and new abnorm: Within 3 mos retest, and if still ≥240, begin diet advice. Retest within 6 mos.	0.9	47%
	Total cholesterol >240 and old abnorm: Within 3 mos check fasting HDL, total chol. and triglycerides, bl. glu., and thyroid func. Retest within 4 mos. If ≤75 yrs and if value remains high, check diet.	1.4	82%

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[*] The data in this column are based on 37 physicians and 108 patients.

ECG

The table on the opposite page displays the results of the review of those patients with abnormal ECG tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests

Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 10 ECG

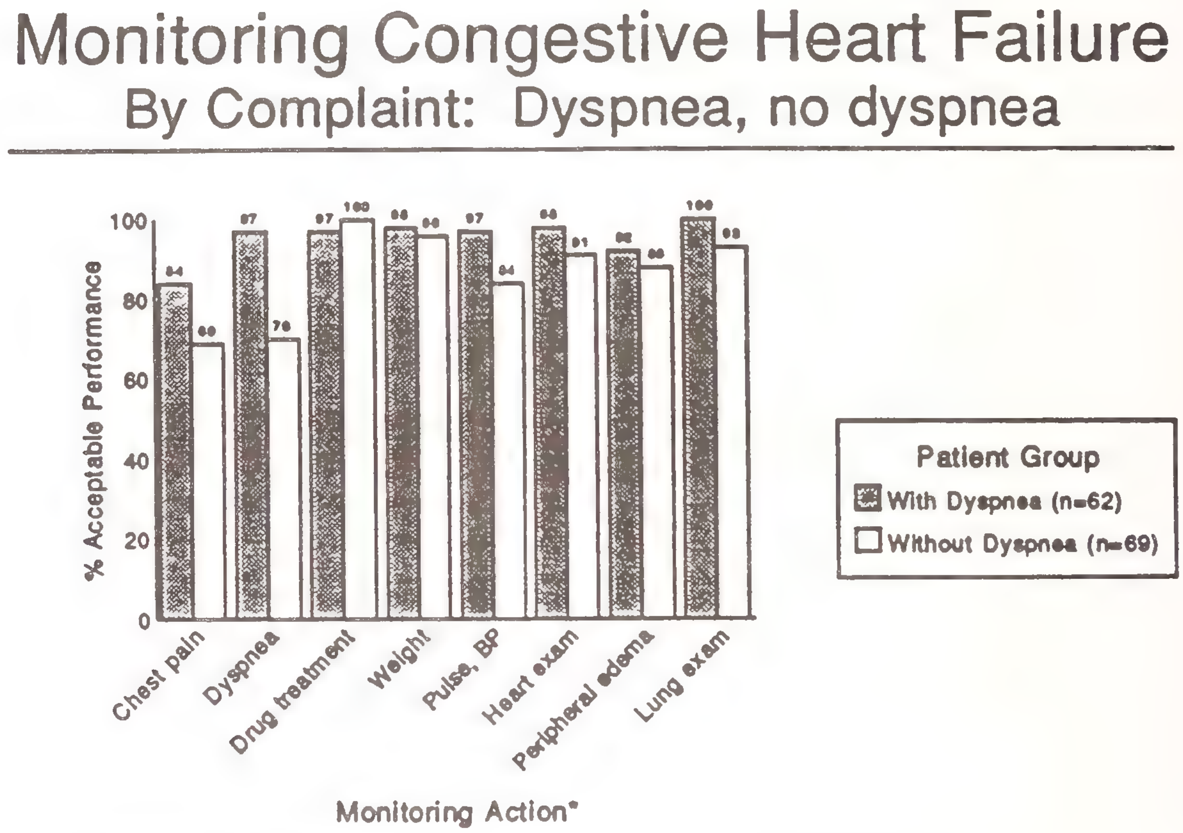
Indicator	Criterion	Peer Group Rates*	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions:** Not routine except with DM, HTN, CHF, cor. artery disease, intrinsic renal disease, valv. heart disease, arrhythmias, metabolic derangements, HTN, DM, PVD, preop eval., tricyclic antidepressants, CHF.	3.0	97%
Test Urgent Response	Patient referred to hospital or ER for lab values: On ECG, new findings of acute ischemic changes, 2nd or 3rd deg. heart block, severe metabolic derangements, multifocal ventricular premature beats, or ventricular tachycardia.	0.2	70%
Test Response	Overall score:	0.3	75%
	Abnormal test results appropriately followed up:		
	If new onset rhythm dist.: Within 1 wk, if on drugs that affect rhythm or serum pot., then decr. or remove. Do Holter monitor or note why not needed. If Holter conf. abnorm., start treatment or req. consult or refer to cardiology within 1 wk.	0.1	67%
	If new atrial fib.: Within 1 day, if on drugs that affect rhythm or serum pot., decr. or remove. Check thyroid, heart, temperature, and lung exam. If fib. persists more than 2 days, start anticoagulants and document decision re attempt to convert to normal sinus rhythm or req. consult or referral.	0.2	83%
	If new metabolic changes on ECG: Within 2 days check serum pot. or serum calcium. If on meds that affect serum pot. and serum calcium, decr. or disc. Treat and retest in 1 wk.	0.0	%

* The data in this column are based on 35 physicians and 105 patients.

CONGESTIVE HEART FAILURE

The table on the opposite page displays the results of the review of your congestive heart failure patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with congestive heart failure.



*All monitoring actions were to be performed at least once in the two year review period

CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 06

CONGESTIVE HEART FAILURE

Indicator	Criterion	Peer Group Rates*	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	1.8	96%
	Chest pain - once	1.7	88%
	Dyspnea, decr. tolerance of exertion - once	1.8	92%
	Document drug treatment - once	1.8	99%
	Weight (or history of weight gain) - once	1.8	100%
	Pulse, BP - once	1.8	91%
	Heart exam - once	1.8	100%
	Peripheral edema	1.8	94%
	Lung exam	1.8	100%
Evidence for a New Diagnosis	S3, pulm. rales, raised JVP and/or pedal edema, enlarged heart OR left ventricular ejection fraction <40% OR signs of CHF on chest x-ray	0.7	67%
Search for Treatable Causes	HTN AND valvular heart disease AND AMI AND drug role AND anemia AND statement re thyroid disease	0.6	64%

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* The data in this column are based on 33 physicians who treated 61 patients with pre-existing diagnoses and 24 patients with new diagnoses.

LOOP DIURETIC

The table on the opposite page displays the results of the review of those patients on loop diuretics, with comparisons to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the loop diuretic criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Bumetanide	Bumex
Ethacrynic Acid	Edecrin
Furosemide	Lasix

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine
CODE: 08

DIURETIC - LOOP

		Peer Group Rates+	
Indicator	Criterion	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	3.2	97%
	Dose Documented	3.2	97%
	Frequency Documented	3.2	97%
Drug Indications	Drug prescribed appropriately for: Edema/pulm. edema, HTN, hypercalcemia	1.2	100%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Risk/benefit:** BUN >50 or creat. >2.5	1.2	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Lithium **Risk/benefit:** Long-term, high-dose corticosteroid	3.2	100%
Drug Monitoring	Overall Monitoring Score	2.6	42%
	Old Drugs:		
	BUN or creat. - q. 6 mos	1.5	32%
	K+ q. - 6 mos	1.5	32%
	Na+ q. - 6 mos	1.6	26%
	If diabetes - bl. glucose q. 3 mos	0.4	53%
	If on lithium - lithium levels q. 3 mos	0.0	%
	New Drugs:		
	BUN or creat. - within 1 mo start of therapy	0.9	50%
	Na+ - within 1 mo start of therapy	0.9	52%
	K+ - within 1 mo start of therapy	0.9	60%
	If diabetes -bl.glu.within 3 mos start therapy	0.3	90%
	If on lithium - lithium levels within 3 mos start of therapy	0.0	%

+ The data in this column are based on 39 physicians who treated 79 patients with new prescriptions and 46 patients with pre-existing prescriptions.

THIAZIDE DIURETICS

The table on the opposite page displays the results of the review of those patients on thiazide diuretics with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the thiazide diuretic criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Bendroflumethiazide	Naturetin
Benzthiazide	Exna, Hydrex
Chlorothiazide	Diuril
Chlorthalidone	Hygroton, Thalitone
Cyclothiazide	Anhydron, Fluidil
Hydrochlorothiazide	Esidrix, Hydrodiuril, Oretic
Hydroflumethiazide	Diucardin, Saluron
Indapamide	Lozol
Methyclothiazide	Aquatensen, Enduron
Methyclothiazide+Enduronyl	Enduronyl
Metolazone	Diulo, Zaroxolyn
Polythiazide	Renese
Quinethazone	Hydromox
Trichlormethiazide	Metahydrin, Naqua

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 10 **DIURETIC - THIAZIDE-TYPE**

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.3	90%
	Dose Documented	2.3	94%
	Frequency Documented	2.3	91%
Drug Indications	Drug prescribed appropriately for: Edema/pulm. edema, HTN, diabetes insipidus, renal calculi	0.6	97%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Renal imp. (BUN>50 or creat.>2.5), hypercalcemia (cal.>12). **Risk/benefit:** Gout, impaired hepatic function, systemic lupus erythematosus	0.6	92%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Oral antidiab. agents, insulin, long-term high-dose corticosteroid therapy	2.3	100%
Drug Monitoring	Overall Monitoring Score	1.6	38%
	Old Drugs:		
	BUN or creat. - q. 6 mos	1.1	28%
	Na+ - q. 6 mos	1.1	28%
	K+ - q. 6 mos	1.1	32%
	If impaired liver function - K+ q. 3 mos	0.0	100%
	If on lithium - lithium levels q. 3 mos	0.0	%
	If diabetes - bl. glucose q. 3 mos	0.3	67%
	If on long-term corticosteroid - K+ q.3 mos	0.0	%

(cont'd)

+ The data in this column are based on 38 physicians, who treated 63 patients with pre-existing prescriptions and 24 patients with new prescriptions.

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	New Drugs:		
	BUN or creat. - within 1 mo start of therapy	0.5	37%
	Na+ - within 1 mo	0.5	37%
	K+ - within 1 mo	0.5	53%
	If diabetes - bl. glucose within 3 mos start of therapy	0.1	100%
	If on lithium - lithium levels within 3 mos of therapy	0.0	%
	If on long-term corticosteroid - serum pot. within 3 mos start of therapy	0.0	%
	If impaired liver function - K+ and Na+ within 3 mos start of therapy	0.0	%

+ The data in this column are based on 38 physicians who treated 63 patients with pre-existing prescriptions and 24 patients with new prescriptions.

THIAZIDE DIURETIC + POTASSIUM SPARING DIURETIC

The table on the opposite page displays the results of the review of those patients on combination diuretic therapy with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Hydrochlorothiazide+Amiloride	Moduretic
Hydrochlorothiazide+Spironolactone	Aldactazide
Hydrochlorothiazide+Triamterene	Dyazide, Maxizide

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 18 COMBINATION: DIURETIC (THIAZIDE-TYPE) + POTASSIUM-SPARING-TYPE

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	3.1	83%
	Dose Documented	3.1	86%
	Frequency Documented	3.1	88%
Drug Indications	Drug prescribed appropriately for: Edema/pulm. edema, HTN, diabetes insipidus, renal calculi, CHF	1.0	92%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Renal impairment (BUN >50 or creat. >2.5) **Risk/benefit:** Hypercalcemia, hyperkalemia, gout, impaired hepatic function, systemic lupus erythematosus	1.0	95%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Oral potassium supp., ACE inhibitors **Risk/benefit:** Oral anti-diabetic agents, insulin, long-term high-dose corticosteroid therapy	3.1	89%
Drug Monitoring	Overall Monitoring Score	2.6	29%
	Old Drugs:		
	BP - q. 6 mos, regular	1.7	74%
	BP - q. 12 mos, standing	1.5	15%
	BUN or creat. - q. 6 mos	1.8	11%
	K+ and Na+ - q. 6 mos	1.8	9%
	If on lithium - lithium levels q. 3 mos	0.0	%
	If diabetes - bl. glucose q. 3 mos	0.3	31%

(cont'd)

+ The data in this column are based on 36 physicians, who treated 76 patients with pre-existing prescriptions and 35 patients with new prescriptions.

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	If on steroids - K+ q 3 mos	0.0	%
	If impaired liver function - K+ and Na+ q 3 mos	0.0	%
	New Drugs:		
	BP - within 1 mo start of therapy	0.8	71%
	BUN or creat - within 1 mo start of therapy	0.8	25%
	K+ - within 1 mo	0.8	25%
	Na+ - within 1 mo	0.8	20%
	If diabetes - bl. glucose within 3 mos start of therapy	0.1	75%
	If on corticosteroids - K+ within 3 mos start of therapy	0.0	%
	If on lithium - lithium levels within 3 mos start of therapy	0.0	%
	If impaired liver function - K+ and Na+ within 3 mos start of therapy	0.0	%

+ The data in this column are based on 36 physicians, who treated 76 patients with pre-existing prescriptions and 35 patients with new prescriptions.

POTASSIUM

The table on the opposite page displays the results of the review of those patients with abnormal potassium tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 04 **POTASSIUM (SERUM LEVEL) K+ <3 OR K+ >5.7**

Indicator	Criterion	Peer Group Rates*	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions:** Diuretic therapy, digoxin therapy, pot. therapy, heart disease, renal disease, hyperaldosteronism, DM, ACE inh. therapy, corticosteroid therapy, dizziness, muscle cramps, myalgias, polyuria, ECG changes suggestive of hyperkalemia, chron. fatigue	1.1	100%
Test Urgent Response	Patient referred to hospital or ER for lab values: If serum pot. >6.0 and ECG changes, if <2.5 and ECG changes	0.1	100%
Test Response	Overall score:	0.8	56%
	Abnormal test results appropriately followed up:		
	Serum pot. <3.0 on diuretics (except pot.-sparing) or on long-term, high-dose corticosteroids: Within 1 wk decr. or disc. hypokalemia-inducing drugs OR add oral pot. repl. therapy, AND/OR change to pot.-sparing diuretics. Retest within 1 mo.	0.5	50%
	Serum pot. <3.0 not on diuretics or hypokalemia-inducing drugs: Within 1 wk check history of chron. diarrhea, enema use, laxative abuse, chron. alcohol. Check serum electrolytes, urine pot., and chloride. Review results within 1 wk.	0.0	%
	Serum pot. 5.7-6.0 on ACE inh., NSAIDs, pot.-sparing diuretics, or pot. supplement therapy: Within 2 days decr. or disc. drugs if appropriate. Retest within 2 wks.	0.1	0%
	Serum pot. 5.7-6.0 not on ACE inh., NSAIDs, pot.-sparing diuretics, or pot. supplement therapy: Within 1 wk repeat serum electrolytes and BUN/creat. Review results within 1 wk.	0.2	0.2%

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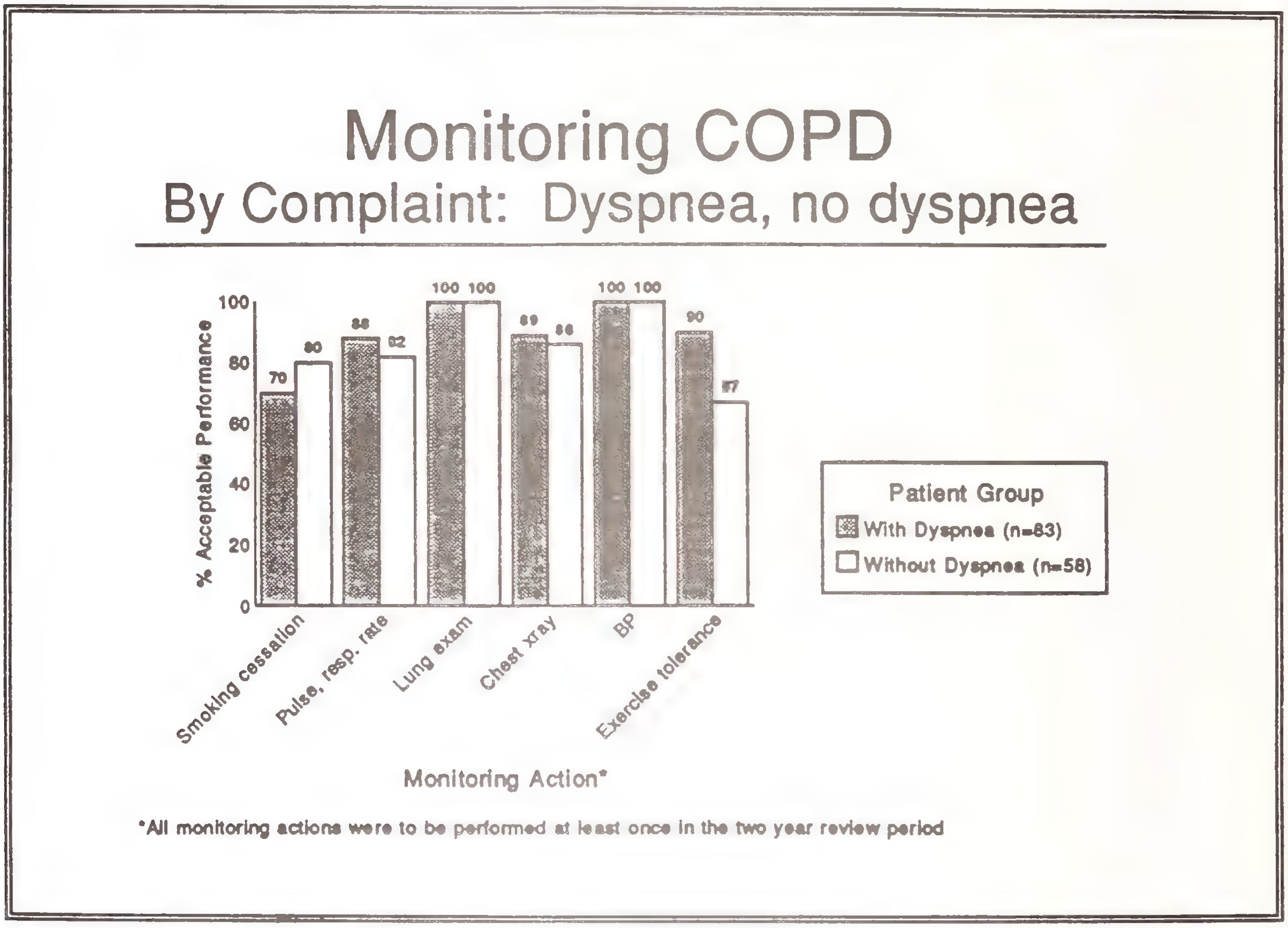
* The data in this column are based on 11 physicians and 12patients.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

The table on the opposite page displays the results of the review of your COPD patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with chronic obstructive pulmonary disease.


Monitoring COPD

By Complaint: Dyspnea, no dyspnea

*All monitoring actions were to be performed at least once in the two year review period

CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 04 **CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

Indicator	Criterion	Peer Group Rates*	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	2.3	88%
	Check for compliance with smoking cessation (if patient is a smoker) - once	2.1	77%
	Pulse, respiratory rate - once	2.3	82%
	Lung exam - once	2.3	100%
	Chest x-ray - once	2.2	89%
	BP - once	2.3	100%
	Tolerance of exertion - once	2.2	76%
Evidence for a New Diagnosis	Productive cough lasting 3 mos for 2 consecutive yrs AND dyspnea on exertion with or w/o wheezing OR decr. forced expiratory volume (1 second)	0.5	23%
Search for Treatable Causes	Smoking or environmental precipitant	0.5	73%

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* The data in this column are based on 33 physicians who treated 77 patients with pre-existing diagonoses and 18 patients with new diagnoses.

INHALED BETA-ADRENERGIC AGONIST

The table on the opposite page displays the results of the review of those patients using beta-adrenergic agonist inhalers, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Albuterol	Proventil, Ventolin
Bitolterol	Tornalate
Epinephrine	Bronkaid Mist, Primatene Mist
Ethylnorepinephrine	Bronkephrine
Isoetharine	Bronkosol, Bronkometer
Isoproterenol	Aerolone, Isuprel
Isoproterenol+Phenylephrine	Duo-Medihaler
Metaproterenol	Alupent, Metaprel
Pirbuterol	Maxair
Racepinephrine	Asthma Nephrin
Terbutaline	Brethaire, Brethine, Bricanyl

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 51 BETA-ADRENERGIC AGONIST (ADRENERGIC BRONCHODILATOR) - INHALED

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.3	48%
	Dose Documented	2.3	48%
	Frequency Documented	2.3	82%
Drug Indications	Drug prescribed appropriately for: Bronch. asthma, bronchiectasis, chron. bronch., and emphysema	0.8	79%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Coronary artery disease, HTN, hyperthyroidism, cerebral insufficiency, chron. lung disease **Risk/benefit:** Patients >70 yrs	0.8	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Monoamine oxidase inh., guanethidine **Risk/benefit:** Beta-adrenergic blockers	2.3	100%
Drug Monitoring	Overall Monitoring Score	1.9	72%
	Old Drugs:		
	Lung exam - q. 6 mos	1.3	86%
	New Drugs:		
	Lung exam - within 1 mo start of therapy	0.6	61%

CHOLINERGIC INHIBITOR

The table on the opposite page displays the results of the review of those patients taking a cholinergic inhibitor, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Ipratropium	Atrovent

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 52 CHOLINERGIC INHIBITOR (INHALATION-LOCAL)

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.2	49%
	Dose Documented	2.2	49%
	Frequency Documented	2.2	89%
Drug Indications	Drug prescribed appropriately for: Emphysema, COPD, bronch. asthma only if beta-adrenergics and xanthines fail	0.7	83%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Glaucoma, urinary retention	0.7	100%
Drug Contraindications	NA		
Drug Monitoring	NA		

+ The data in this column are based on 10 physicians, who saw 15 patients with pre-existing prescriptions and 7 patients with new prescriptions.

ORAL XANTHINE DERIVATIVE

The table on the opposite page displays the results of the review of those patients on an oral xanthine derivative with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Aminophylline	Somophyllin
Dyphylline	Dilor, Dyflex, Lufyllin
Oxtriphylline	Choledyl
Theophylline	Aerolate, Bronkodyl, Duraphyl, Elixophyllin, Quibro, Slo-Bid, Slo-Phyllin,Somophyllin-T, Sustaire, Theo-24, Theobid, Theochron, Theo-Dur, Theolair, Uniphyl
Theophylline+Guaifenesin	Asbron G, Eliophyllin-GG, Quibron, Slo-Phyllin GG, Theolair-Plus, Theolate

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 53 XANTHINE-DERIVATIVE - ORAL

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.1	99%
	Dose Documented	2.1	99%
	Frequency Documented	2.1	99%
Drug Indications	Drug prescribed appropriately for: Bronch. asthma, pulm. emphysema, chron. bronchitis	0.6	68%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Gastritis or peptic ulcer, CHF, liver disease, prostatic hypertrophy, alcoholism	0.6	86%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** On other xanthine derivative **Risk/benefit:** Cimetidine, erythromycin, beta blockers, furosemide, propanolol	2.1	78%
Drug Monitoring	Overall Monitoring Score	1.9	18%
	Old Drugs:		
	Serum theophylline - q. 3 mos	1.3	17%
	New Drugs:		
	Serum theophylline - within 1 wk start of therapy	0.6	29%

ORAL BETA-ADRENERGIC AGONIST

The table on the opposite page displays the results of the review of those patients taking an oral beta-adrenergic agonist, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Albuterol	Proventil, Ventolin
Ephedrine	Vantronol
Isoproterenol (sublingual)	Aerolone, Isuprel
Metaproterenol	Alupent, Metaprel
Terbutaline	Brethaire, Brethine, Bricanyl

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 55 BETA-ADRENERGIC AGONIST (ORAL)

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1.3	85%
	Dose Documented	1.3	85%
	Frequency Documented	1.3	92%
Drug Indications	Drug prescribed appropriately for: Bronch. asthma in patients who cannot use metered inhaler correctly, bronchiectasis, ephedrine not in patients >65, isoproterenol sublingual not in patients >65	0.4	38%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** CAD, HTN, hyperthyroidism, angina, arrhythmia	0.4	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** MAOs, ephedrine, guanethidine-ephedrine **Risk/benefit:** Beta-adrenergic blockers	1.3	100%
Drug Monitoring	Overall Monitoring Score	1.0	67%
	Old Drugs:		
	Lung exam - q. 6 mos	0.7	100%
	Pulse - q. 6 mos	0.7	100%
	BP - q. 6 mos, alternating standing and regular	0.7	25%

(cont'd)

+ The data in this column are based on 12 physicians who treated 10 patients with pre-existing prescriptions and 5 patients with new prescriptions.

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	New Drugs:		
	Lung exam - within 1 mo	0.3	67%
	Pulse - within 1 mo	0.3	0%
	BP - within 1 mo	0.3	33%

+ The data in this column are based on 12 physicians who treated 10 patients with pre-existing prescriptions and 5 patients with new prescriptions.

CEPHALOSPORIN

The table on the opposite page displays the results of the review of those patients taking a cephalosporin, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
First Generation:	
Cefadroxil	Duricef, Ultracef
Cephalexin	Keflex
Cephadrine	Anspor, Velosef
Second Generation:	
Cefaclor	Ceclor
Cefuroxime	Ceftin
Third Generation:	
Cefixime	Suprax

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 61 CEPHALOSPORIN

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	3.7	81%
	Dose Documented	3.7	82%
	Frequency Documented	3.7	83%
Drug Indications	Drug prescribed appropriately for: ***First Generation:** Lower resp. tract infec., urinary tract infec., skin/soft tissue infec., bone infec. **Second Generation:** *Lower resp. tract infec. *Urinary tract infec. *Skin/soft tissue infec. *Bone infec. Otitis media, urinary tract infec., gonorrhea-cefuroxime **Third Generation:** Urinary tract infec.	3.3	21%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Previous allergic reaction to cephalosporin **Risk/benefit:** Colitis, penicillin allergy, BUN >50 or creat. >2.5.	3.3	97%
Drug Contraindications	NA		
Drug Monitoring	NA		

* Only if organism resistant or unresponsive to other anti-infectives or patient allergic to penicillins or sulfonamides or trimethoprim-sulfamethoxazole.

+ The data in this column are based on 40 physicians, who treated 16 patients with pre-existing prescriptions and 133 patients with new prescriptions.

ERYTHROMYCIN

The table on the opposite page displays the results of the review of those patients on erythromycin with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Erythromycin	Eryc, E-Mycin, Ilotycin
Erythromycin Estolate	Ilosone
Erythromycin Ethylsuccinate	EryPed, Pediamycin, Wyamycin E, EES
Erythromycin Stearate	Erythrocin, Erypar, Wyamycin S

CLINICAL ITEM REPORT - Drug
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 62 **ERYTHROMYCIN**

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.0	78%
	Dose Documented	2.0	83%
	Frequency Documented	2.0	78%
Drug Indications	Drug prescribed appropriately for: Campylobacter infec., pertussis treatment or prophylaxis **If allergic to penicillin:** Strep. pneumonia, strep. tonsillitis, community-acquired bronch., prophylaxis for dental procedures, otitis media, skin/soft tissue infec.	1.9	8%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Allergy to erythromycin **Risk/benefit:** Hepatic impairment	1.9	100%
Drug Contraindications	NA		
Drug Monitoring	Overall Monitoring Score	0.0	%
	Old Drugs:		
	If treatment >2 wks and on anticoagulants - prothrombin time q. 1 mo	0.0	%
	New Drugs:		
	If treatment prolonged >2 wks and if on carbamazepine or phenytoin - serum drug levels of these 2 drugs within 1 mo start of therapy	0.0	%
	If treatment prolonged >2 wks and if on anticoagulants - prothrombin time within 1 wk start of therapy	0.0	%
	If treatment prolonged >2 wks and if on theophylline - levels within 1 mo start of therapy	0.0	%

+ The data in this column are based on 28 physicians, who saw 5 patients with pre-existing prescriptions and 52 patients with new prescriptions.

TETRACYCLINE

The table on the opposite page displays the results of the review of those patients taking tetracycline, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Demeclocycline	Declomycin
Doxycycline	Doryx, Vibramycin
Methacycline	Rondomycin
Minocycline	Minocin
Oxytetracycline	Terramycin
Tetracycline	Achromycin, Panmycin, Sumycin, Tetracyn

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 64 **TETRACYCLINE**

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1.8	72%
	Dose Documented	1.8	73%
	Frequency Documented	1.8	82%
Drug Indications	Drug prescribed appropriately for: Acute/chron. bronchitis, pneumonia, pelvic inflamm. disease, urinary tract infec., chron. prostatitis, Lyme disease, chlamydia, epididymo-orchitis	1.6	54%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** BUN >50 or creat. >2.5 **Risk/benefit:** None	1.6	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Anticoagulants	1.8	100%
Drug Monitoring	Overall Monitoring Score	0.0	%
	Old Drugs:		
	NA		
	New Drugs:		
	If minocycline, warn re vestibular effect	0.0	%

+ The data in this column are based on 22 physicians, who saw 5 patients with pre-existing prescriptions and 35 patients with new prescriptions.

AMINOPENICILLINS

The table on the opposite page displays the results of the review of those patients taking an aminopeniclin, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Amoxicillin	Amoxil, Polymox, Trimox, Wymox
Amoxicillin+Clavulanate	Augmentin
Ampicillin	Amcill, Omnipen, Polycillin, Principen, Totacillin
Ampicillin+Sulbactam	Unasyn
Bacampicillin	Spectrobid
Cyclacillin	Cyclapen-W

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 65 **AMINOPENICILLINS**

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	3.6	83%
	Dose Documented	3.6	85%
	Frequency Documented	3.6	83%
Drug Indications	Drug prescribed appropriately for: Otitis media, sinusitis, shigella gastroenteritis, urinary tract infec., acute prostatitis, pelvic inflamm. disease, acute epididymo-orchitis, urethral gonorrhea, pneumonia	3.3	38%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Allergy to penicillin	3.3	100%
Drug Contraindications	NA		
Drug Monitoring	NA		

+ The data in this column are based on 33 physicians, who saw 9 patients with pre-existing prescriptions and109 patients with new prescriptions.

PENICILLINASE-RESISTANT PENICILLIN

The table on the opposite page displays the results of the review of those patients ona penicillinase-resistant penicillin, with comparisonto your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Cloxacillin	Cloxapen, Tegopen
Dicloxacillin	Dynapen, Pathocil, Dycill
Oxacillin	Bactocill, Prostaphlin

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 66 PENICILLINASE-RESISTANT PENICILLINS

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1.0	100%
	Dose Documented	1.0	100%
	Frequency Documented	1.0	100%
Drug Indications	Drug prescribed appropriately for: Infections of skin and soft tissue, mild infections of joints, respiratory and genitourinary tract infections where penicillin-resistant strains have been cultured or are suspected	0.5	100%
ConditionContraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Allergy to penicillin	1.0	100%
Drug Contraindications	NA		
Drug Monitoring	NA		

+ The data in this column are based on 2 physicians, who saw 0 patients with pre-existing prescriptions and 2 patients with new prescriptions.

SULFONAMIDE + TRIMETHOPRIM

The table on the opposite page displays the results of the review of those patients on bactrim, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Sulfamethoxazole+Trimethoprim	Bactrim, Cotrim, Septra

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 72

SULFONAMIDE + TRIMETHOPRIM

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2.1	68%
	Dose Documented	2.1	68%
	Frequency Documented	2.1	80%
Drug Indications	Drug prescribed appropriately for: Lower urinary tract infec., pyelonephritis, prophylaxis of urinary infec., sinusitis, chron. bronchitis, chron. prostatitis, shigellosis, otitis media, traveler's diarrhea, salmonellosis	1.7	92%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Sulfonamides allergy, G6PD deficiency **Risk/benefit:** Blood dyscrasias or megaloblastic anemia, hepatic impairment, renal impairment	1.7	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Oral antidiabetics, anticoagulants, phenytoin, methotrexate, thiazides	2.1	93%
Drug Monitoring	Overall Monitoring Score	0.0	0%
	Old Drugs:		
	If long-term, high-dose therapy:		
	CBC - q. 1 mo	0.0	0%
	UA - crystals q. 6 mos	0.0	0%
	BUN or creat. q. 6 mos	0.0	0%
	If anticoagulants - prothrombin time q. 1 mo	0.0	0%

(cont'd)

+ The data in this column are based on 26 physicians, who saw 11 patients with pre-existing prescriptions and 44 patients with new prescriptions.

Indicator	Criterion	Peer Group Rates+	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
	New Drugs:		
	If >1 mo: CBC - within 1 mo start of therapy	0.0	%
	UA - crystals within 6 mos start of therapy	0.0	%
	BUN or creat - within 6 mos start of therapy	0.0	%
	If anticoagulants - PT within 1 wk start of therapy	0.0	%
	If dilantin - levels within 1 mo start of therapy	0.0	%

+ The data in this column are based on 26 physicians, who saw 11 patients with pre-existing prescriptions and 44 patients with new prescriptions.

CHEST XRAY

The table on the opposite page displays the results of the review of those patients with abnormal chest xray tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 12 **X-RAY: CHEST**

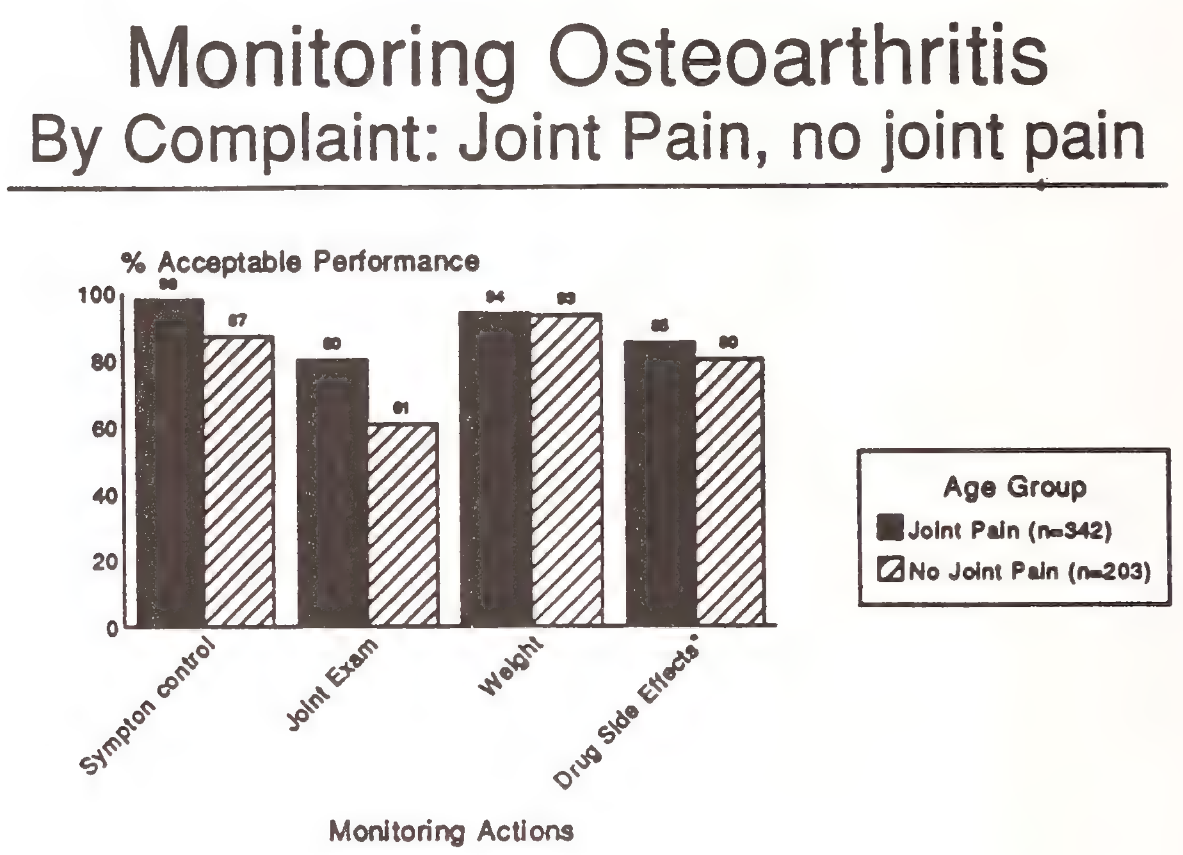
		Peer Group Rates*	
Indicator	**Criterion**	**Average Number of Patients per Physician**	**Average Percent Acceptable Performance**
Test Indications	Tests ordered appropriately for: **Conditions: Annually in chronic smoker:** Known or suspected heart disease, chest disease, or esophageal disease; heartburn/acid reflux; chest or shoulder pain; cough, fever, lung signs; cough and wt loss in smoker; preop chest x-ray; chest trauma, suspected rib fracture; known TB or positive PPD.	3.6	96%
Test Urgent Response	Patient referred to hospital or ER for lab values: Significant evidence of CHF OR pulm. edema OR pneumothorax impairing resp. or cardiac func. OR severe pneum. with incapacitating symptoms OR pneum. in debilitated patient OR pneum. in patient unable to care for self AND without caregiver.	0.1	67%
Test Response	Overall score:	0.6	86%
	Abnormal test results appropriately followed up:		
	Pneumonia: Within 1 day treat with antibiotics and review within 1 wk. If symptoms persist, repeat x-ray and get PPD within 1 mo.	0.1	80%
	CHF: Within 1 wk review salt intake. Start or adjust diur. therapy. Re-exam within 1 wk. If symptoms persist, augment treatment OR req. consult OR referral.	0.0	100%
	Lung mass: Within 2 wks, chest CT scan and biopsy or referral to pulm./thoracic surgeon.	0.1	100%
	Lung infiltrate: Within 1 day treat with antibiotics for >1 wk, then repeat x-ray and get PPD after therapy if symptoms persist.	0.3	71%
	Pneumothorax, small newly discovered: Within 1 day treat symptomatically, repeat x-ray within 24 hrs and if increase in size, immediate referral or hospitalization.	0.0	%

* The data in this column are based on 35 physicians and 125 patients.

OSTEOARTHRITIS

The table on the opposite page displays the results of the review of your osteoarthritis patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with osteoarthritis.



* Patients were monitored for side effects of medication if they were on medication

CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE 03: OSTEOARTHRITIS

Indicator	Criterion	Peer Group Rates*	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	6.2	86%
	Control of symptoms - once	6.0	92%
	Exam of joints most affected - once	6.0	73%
	Weight - once	6.2	98%
	Side effects of meds - once	4.6	81%
Evidence for a New Diagnosis	Symptoms lasting longer than 1 mo that are suggestive of osteoarthritis OR positive x-ray findings of osteoarthritis	1.2	79%
Search for Treatable Causes	Obesity (weight and height)	1.0	62%

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* The data in this column are based on 42 physicians who treated 262 patients with pre-existing diagnoses and 52 patients with new diagnoses.

HEMOGLOBIN/HEMATOCRIT

The table on the opposite page displays the results of the review of those patients with abnormal hgb/hct tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests

Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 02 **HEMOGLOBIN/HEMATOCRIT - HGB >18 OR HGB <10**

		Peer Group Rates	
Indicator	Criterion	**Average Number of Patients per Physician**	**Average Percent Acceptable Performance**
Test Indications	Tests ordered appropriately for: **Conditions:** Anemia, blood loss, CAD, HTN, chron. renal failure, polycythemia, melena/stool-positive occult blood, fatigue/dizziness/conf., decr. tolerance for exertion or shortness of breath, infec. symptoms, aspirin use, NSAID use, gastrointestinal dis., concern re nutrition, self-care	1.6	100%
Test Urgent Response	Patient referred to hospital or ER for lab values: If new finding of hemoglobin <6 or hematocrit <18% and symptomatic.	0.1	100%
Test Response	Overall score:	0.9	83%
	Abnormal test results appropriately followed up:		
	Hemoglobin <10 and mean corpuscular vol. <82: Within 1 wk, RBC and peripheral smear. If mean corpuscular vol.<82, inq. re blood loss AND check iron/total iron-binding capacity OR serum ferritin OR therapeutic trial of iron. Then, if no obvious source of blood loss, check stool for occult blood. If iron deficiency, workup within 3 mos.	0.0	-%
	Hemoglobin <10 and mean corpuscular vol. 82-98: RBC and peripheral smear. If mean corpuscular vol. 82-98, then check iron/total iron-binding OR ferritin AND BUN/creat. and rev. results within 2 wks.	0.4	75%
	Hemoglobin <10 and mean corpuscular vol. >98: RBC and peripheral smear. Check history of chron. alcohol use, B12, folate, and review results within 2 wks.	0.4	100%
	Hemoglobin >18 or hematocrit >54: Check arterial pO_2 and renal ultrasound and review results within 1 mo OR req. consult OR refer to hematologist.	0.0	%
	Hemoglobin <10 and MCV not available: Inquire as to obvious blood loss AND check iron/total iron-binding OR ferritin OR trial of iron. THEN check occult blood. If iron deficiency, work-up within 3 mos.	0.1	100%

PREVENTION

PREVENTION

The table on the opposite page shows the results of the review of your patients' records for four selected preventive services: blood pressure, flu shot, breast exam (women only), and mammogram (women under age 75 only).

CLINICAL ITEM REPORT - Prevention
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Blood Pressure	Once in two-yr period	19.2	98%
Mammogram	Once in two-yr period for women <75 yrs old	7.2	49%
Breast Exam	Once in two-yr period for women	12.7	52%
Flu Shot	Once in two-yr period	19.2	40%

MAMMOGRAM

The table on the opposite page displays the results of the review of those patients with abnormal mammograms, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

CODE: 13 MAMMOGRAM

Indicator	Criterion	Peer Group Rates*	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions: Annually:** Positive for family history of breast cancer, personal history of breast cancer, or screening.	1.6	100%
Test Urgent Response	NA		
Test Response	Overall score:	1.1	96%
	Abnormal test results appropriately followed up:		
	Abnormal mammogram, diagnostic of malignancy: Within 1 wk refer back to radiology or surgery.	0.0	%
	Abnormal mammogram, not diagnostic: Within 6 mos repeat test in time specified by radiologist.	1.1	96%

* The data in this column are based on 19 physicians and 31 patients.

FOLLOW-UP

FOLLOW-UP

The table on the opposite page shows the results of the review of your patients' records for five selected types of follow-up: follow-up of a hospitalization or consult request and follow-up of significant findings such as a mass, bleed or unexplained weight loss.

CLINICAL ITEM REPORT - Follow-Up
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

Indicator	Criterion	Peer Group Rates	
		Average Number of Patients per Physician	Average Percent Acceptable Performance
Follow-up of Consult or Hospitalization	Overall Score	10.9	77%
	If consult requested, follow-up mention in record.	8.5	73%
	If hospitalization planned, follow-up mention in record.	2.6	91%
Follow-up of Significant Finding	Overall Score	10.3	92%
	If a mass is found, follow-up of finding in record.	4.0	96%
	If a bleed is found, follow-up of finding in record.	3.9	91%
	If a weight loss is found, follow-up of finding in record.	3.0	94%

INDICATOR SUMMARY REPORTS
September 24, 1993

INDICATOR SUMMARY REPORTS

The Indicator Summary Report presents one table for each function - drugs, diagnosis, tests, prevention, and followup. These tables summarize your performance rates for ***each*** indicator of a function.

1. How to read the Indicator Summary Report

The function displayed is shown in the title. The dates covered by the review appear immediately below the title. The function name also appears above the table, on the right, a placement which makes it easy to find the table when flipping through the book.

COLUMN	DESCRIPTION
Indicator	Displays the indicators associated with the function listed in the title for this page, e.g. Drugs, Tests, etc.
Your Rates: Number of drugs [tests, diagnoses, etc.]	Shows the number of items included in the rate displayed in the next column. If each of your 25 patients had two drugs, then number of drugs shown in this column would be 50. The number of drugs [tests, diagnoses, etc.] evaluated depends upon the indicator. For example, indicators which apply only to new diagnoses usually have fewer cases than indicators which apply to pre-existing diagnoses (see GLOSSARY for definitions of *new* versus *pre-existing*).
Your Rates: Percent Acceptable Performance	Displays the "percent acceptable performance" rate for an indicator. See below for calculation details.
Peer Group Rates: Average Number of drugs [test, diagnoses, etc.] per physician	Shows the average number of items ***per physician*** who were included in the rate shown in the next column
Peer Group Rates: Average Percent Acceptable Performance	Presents the average percent acceptable performance rate for all physicians in your peer (specialty) group. See below for calculation details.
Quartile Rank	Displays a comparative statistic. All rates within your specialty for a particular indicator are divided into four equal groups: 1st (lowest) quartile: your score fell between the 0th and 24th percentile, inclusive 2nd quartile: your score fell between the 25th and 49th percentile, inclusive 3rd quartile: your score fell between the 50th and 74th percentile, inclusive 4th (highest) quartile: your score fell between the 75th and 99th percentile, inclusive

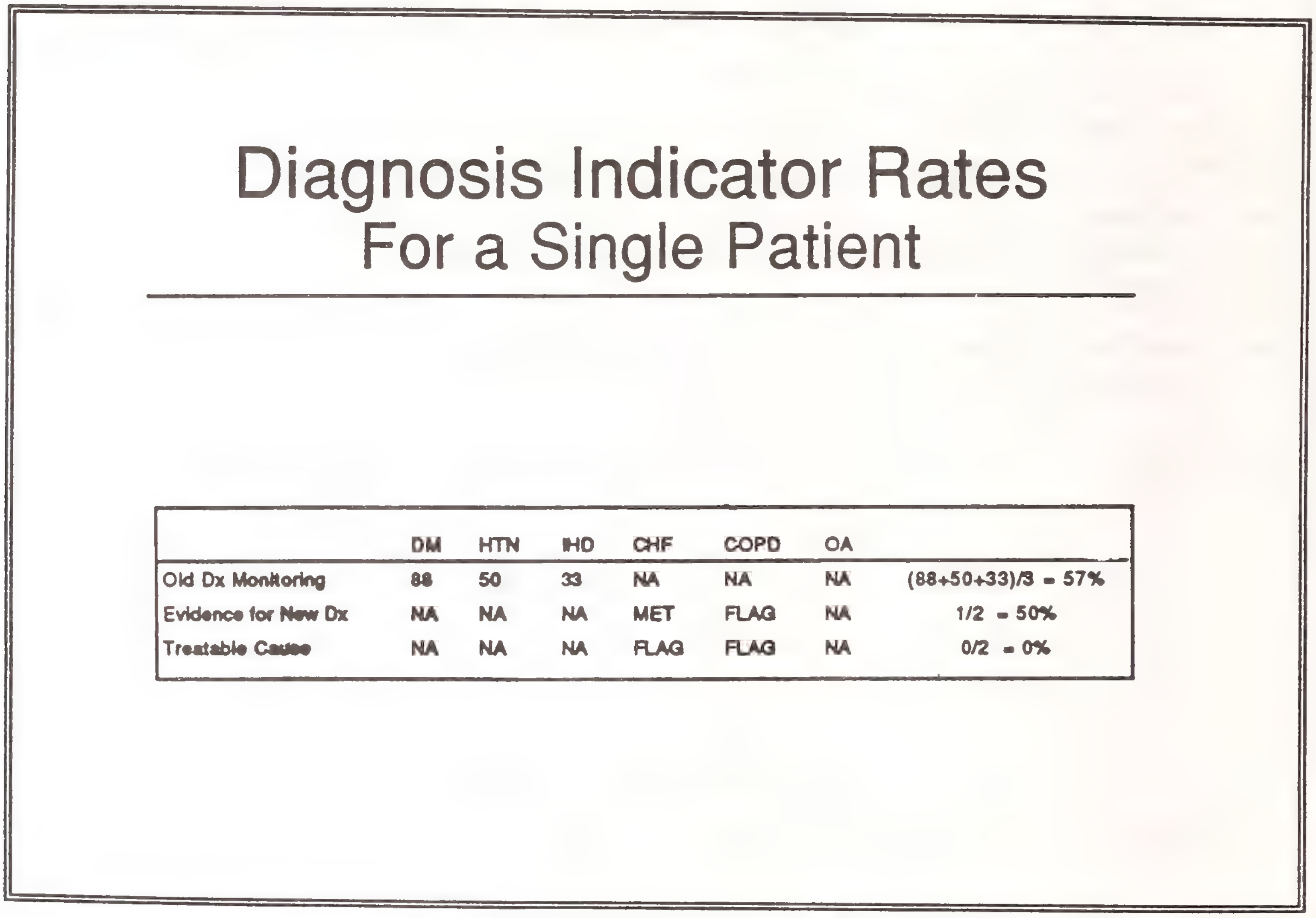
2. Interpreting the Indicator Summary Report

Indicator rates summarize performance across different clinical items such as penicillin, beta blockers and corticosteroids. The average rates of physicians within your specialty who submitted records for DEMPAQ review are given so you can see how your performance compares to that of your peers. **Caution:** Rates based on small numbers of cases (fewer than 5) may not reflect your customary performance, because the small number gives a statistically unstable result.

The quartile rank presents another measure of comparison with your peers. Performance in the 4th quartile usually may be considered better than performance in the first quartile. **Caution:** If the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range (see diagrams on pages opposite the tables), then the differences in performance between the 1st and 4th quartiles may not be clinically important.

3. Calculating the Indicator Summary Rates

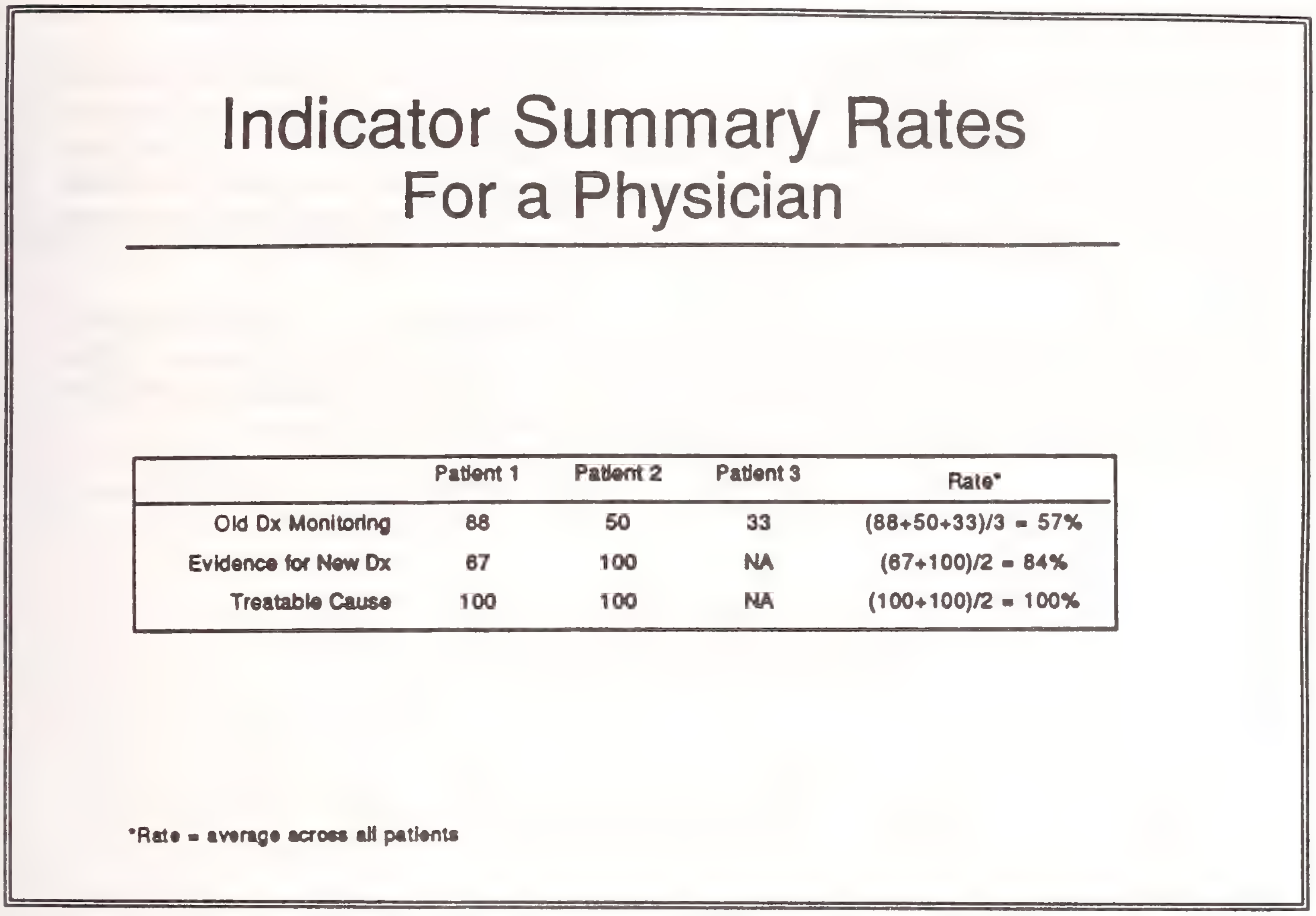
The indicator rates are first calculated for a patient and then averaged across all patients. Figure one depicts how the MET and AA scores for each clinical item are added together and divided by the total number of applicable scores for a patient (MET + AA + FLAG). This gives a patient level performance rate for a particular indicator. The monitoring (drug and diagnosis) indicator rates are calculated by averaging the percentage of monitoring items with met or AA findings across all applicable clinical items.



Diagnosis Indicator Rates
For a Single Patient

	DM	HTN	IHD	CHF	COPD	OA	
Old Dx Monitoring	88	50	33	NA	NA	NA	(88+50+33)/3 = 57%
Evidence for New Dx	NA	NA	NA	MET	FLAG	NA	1/2 = 50%
Treatable Cause	NA	NA	NA	FLAG	FLAG	NA	0/2 = 0%

Figure two shows how the indicator rates for each patient are averaged to create the doctor level indicator rate. The denominator is the number of patients to whom the indicator applies. This method of calculating a summary rate ensures that no single patient will unduly influence the summary rate.



Indicator Summary Rates
For a Physician

	Patient 1	Patient 2	Patient 3	Rate*
Old Dx Monitoring	88	50	33	(88+50+33)/3 = 57%
Evidence for New Dx	67	100	NA	(67+100)/2 = 84%
Treatable Cause	100	100	NA	(100+100)/2 = 100%

*Rate = average across all patients

4. Calculating peer group rates

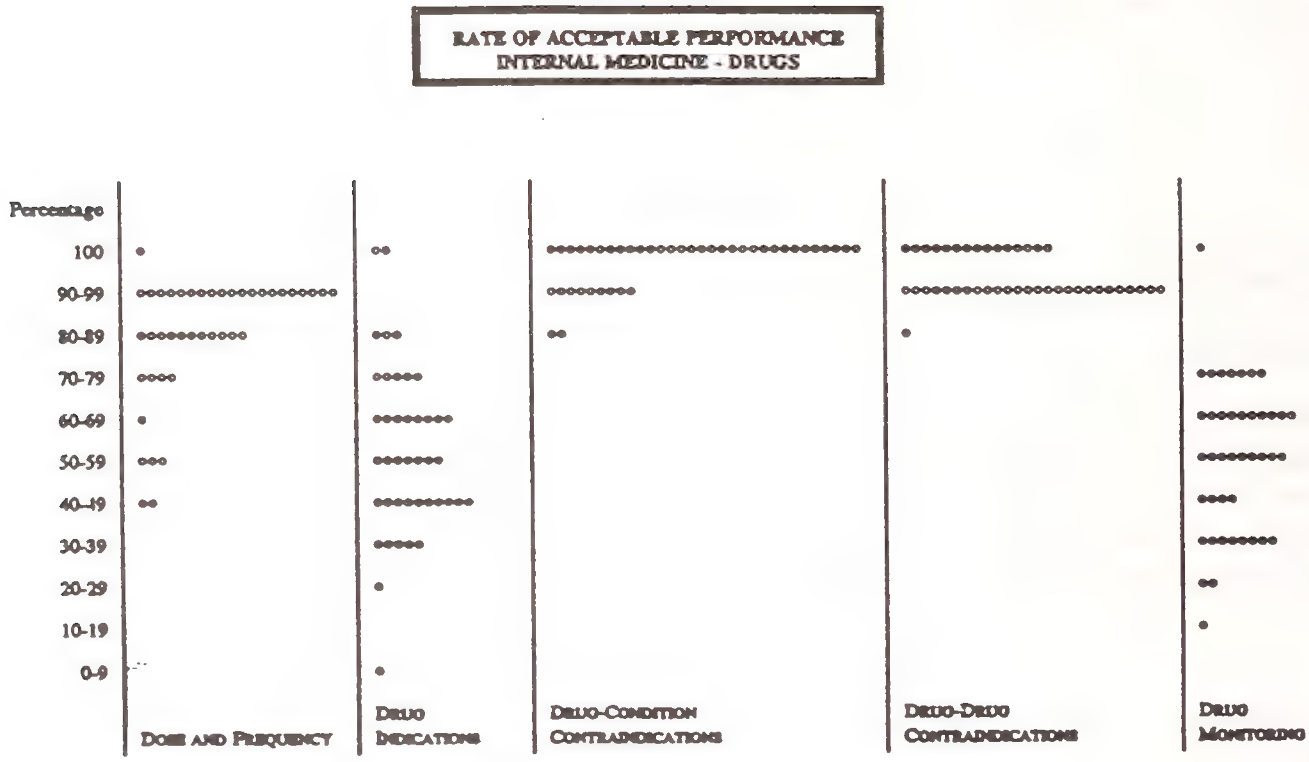
Peer group rates are constructed by averaging individual physician performance rates, by specialty. Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

DRUG INDICATOR SUMMARY

The table on the opposite page summarizes performance on the five drug indicators. The function is identified both in the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page, you see that you scored 87% for the Dose and Frequency indicator, then you are represented by one of the dots in the 80-89% row of the Dose and Frequency column. Find your Drug Indications performance rate on the opposite page and then locate the corresponding dot in the Drug Indications column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g., if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

Indicator	Peer Group Rates*	
	Average Number of Drugs per Physician	Average Percent Acceptable Performance
Dose and Frequency	37.8	84%
Drug Indications	16.6	56%
Condition Contraindications	16.7	98%
Drug Contraindications	37.8	98%
Drug Monitoring	21.6	55%

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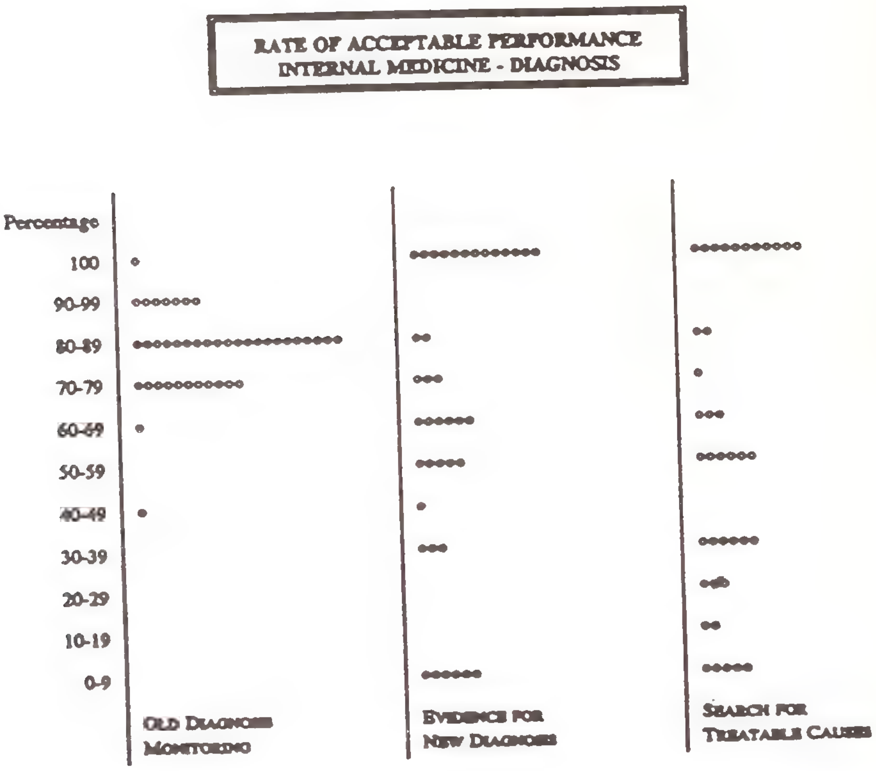
[*] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

DIAGNOSIS INDICATOR SUMMARY

The table on the opposite page summarizes performance on the three diagnosis indicators. The function is identified in both the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Old Diagnosis Monitoring indicator, then you are represented by one of the dots in the 80-89% row of the Old Diagnosis Monitoring column. Find your Evidence for New Diagnosis performance rate on the opposite page and then locate the corresponding dot in the Evidence for New Diagnosis column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Diagnoses
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

	Peer Group Rates*	
Indicator	Average Number of Diagnoses per Physician	Average Percent Acceptable Performance
New Diagnosis Indications	3.4	63%
New Diagnosis Workup	3.0	55%
Pre-exisitng Diagnosis Monitoring	20.4	82%

---

* Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

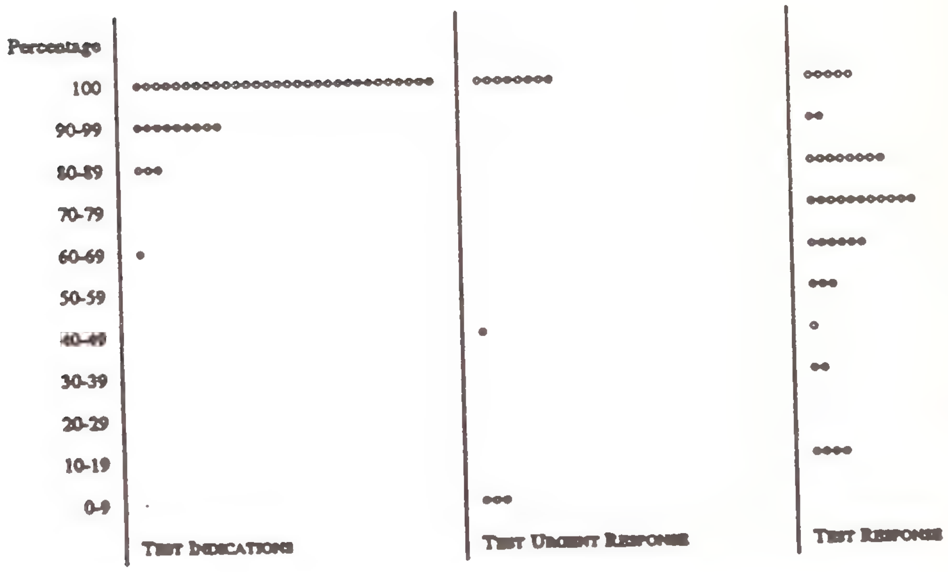
TEST INDICATOR SUMMARY

The table on the opposite page summarizes performance on the three test indicators. The function is identified in both the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Test Indications indicator, then you are represented by one of the dots in the 80-89% row of the Test Indications column. Find your Appropriate Response performance rate on the opposite page and then locate the corresponding dot in the Appropriate Response column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.

RATE OF ACCEPTABLE PERFORMANCE
INTERNAL MEDICINE - TESTS



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

	Peer Group Rates[*]	
Indicator	Average Number of Tests per Physician	Average Percent Acceptable Performance
Test Indications	17.0	97%
Urgent Response	0.3	71%
Appropriate Response	9.9	69%

---

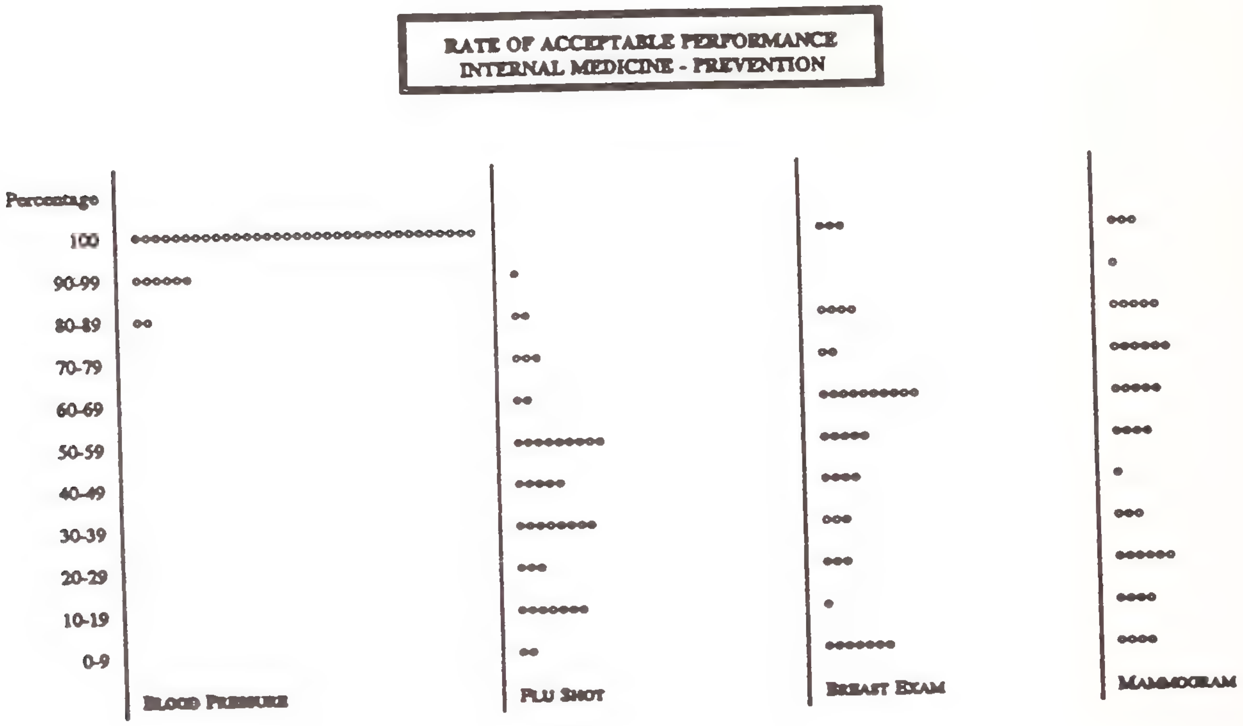
[*] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

PREVENTION SUMMARY

The table on the opposite page summarizes performance on the four prevention indicators. The function is identified in both the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Blood Pressure indicator, then you are represented by one of the dots in the 80-89% row of the Blood Pressure column. Find your Influenza Immunization performance rate on the opposite page and then locate the corresponding dot in the Influenza Immunization column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Prevention
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

	Peer Group Rates[*]	
Indicator	Average Number of Patients per Physician	Average Percent Acceptable Performance
Blood Pressure	19.2	98%
Flu Vaccine	19.2	40%
Mammogram	7.2	49%
Breast Exam	12.7	52%

---

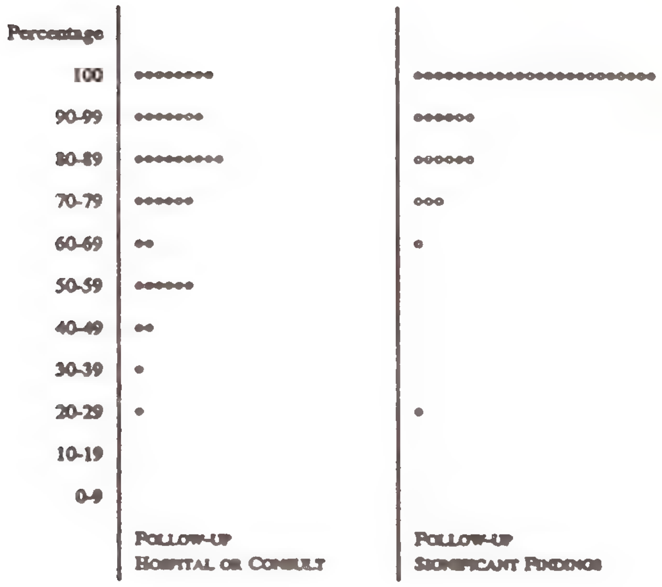
[*] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

FOLLOW-UP INDICATOR SUMMARY

The table on the opposite page summarizes performance on the two follow-up indicators. The function is identified in both the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Consult or Hospitalization indicator, then you are represented by one of the dots in the 80-89% row of the Consult or Hospitalization column. Find your Significant Finding performance rate on the opposite page and then locate the corresponding dot in the Significant Findings column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.



RATE OF ACCEPTABLE PERFORMANCE
INTERNAL MEDICINE - FOLLOW-UP

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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Follow-up
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

FOLLOW-UP

	Peer Group Rates[*]	
Indicator	**Average Number of Visits[**] per Physician**	**Average Percent Acceptable Performance**
Consult or Hospitalization	10.9	77%
Significant Findings	10.3	92%

---

[*] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

FUNCTION SUMMARY REPORTS

September 24, 1993

FUNCTION SUMMARY REPORT

The Function Summary Report presents a single table summarizing your performance on ***each*** function. Rates for individual indicators and different clinical items are combined within the function rate.

1. How to read the Function Summary Report

The dates covered by the review appear immediately below the title. The title of the table also appears above the table, on the right, a placement which makes it easy to find the table when flipping through the book.

COLUMN	DESCRIPTION
Function	Displays one of six functions reviewed by DEMPAQ.
Your Rates: Number	Shows the number of drugs, diagnoses, tests, patients or visits that were used to construct the rate shown in the next column.
Your Rates: Percent Acceptable Performance	Displays the "percent acceptable performance" rate on a function. See below for calculation details.
Peer Group Rates: Average Number	Shows the average number of drugs, diagnoses, tests, patients or visits ***per physician*** that were included in the rate shown in the next column.
Peer Group Rates: Average Percent Acceptable Performance	Presents the average percent acceptable performance rate for all physicians in your peer (specialty) group. See below for calculation details.
Quartile Rank	Displays a comparative statistic. All rates within your specialty for a particular function are divided into four equal groups: 1st (lowest) quartile: your score fell between the 0th and 24th percentile, inclusive 2nd quartile: your score fell between the 25th and 49th percentile, inclusive 3rd quartile: your score fell between the 50th and 74th percentile, inclusive 4th (highest) quartile: your score fell between the 75th and 99th percentile, inclusive

2. Interpreting the Function Summary

This report allows you to assess your overall performance on each clinical function. The table also gives you a good idea of the broad categories of clinical tasks you perform most frequently for your patients 65 and older. The average rates of physicians within your specialty who submitted records for DEMPAQ review are given so you can see how your performance compares to that of your peers. **Caution:** Rates based on small numbers of cases (fewer than 5) may not reflect your customary performance, because the small number gives a statistically unstable result.

The quartile rank presents another measure of comparison with your peers. Performance in the 4th quartile usually may be considered better than performance in the first quartile. **Caution:** If the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range (see diagrams on pages opposite the tables), then the differences in performance between the 1st and 4th quartiles may not be clinically important.

3. Calculating the Function Summary Rates

Figure one shows how the number of acceptable scores (MET + AA) are summed across all clinical items and indicators within a function and divided by the total number of scores for a patient (MET + AA + FLAG). This gives a patient level function performance rate.

Function Summary Rates
For a Single Patient

	HTN	CHF	COPD	OA	Sum Across Indicators*	Number of Scores
Old Dx Monitoring	0.62	NA	NA	0.75	1.37	2
Evidence for New Dx	NA	Flag	Met	NA	1	2
Treatable Causes	NA	Flag	Flag	NA	0	2
Grand Total					2.37	6
Function Score					2.37/6=40%	

*Flag=0, Met and AA = 1

The patient level function summary rates are then averaged (see figure two). The denominator is the number of patients to whom the function applies. This method of calculating a summary rate ensures that no single patient will unduly influence the summary rate.

Diagnosis Function Summary Rates
For a Physician

	Patient Level Function Rate
Patient 1	68%
Patient 2	50%
Patient 3	54%
Patient 4	37%
Average	52%

4. **Calculating peer group rates**

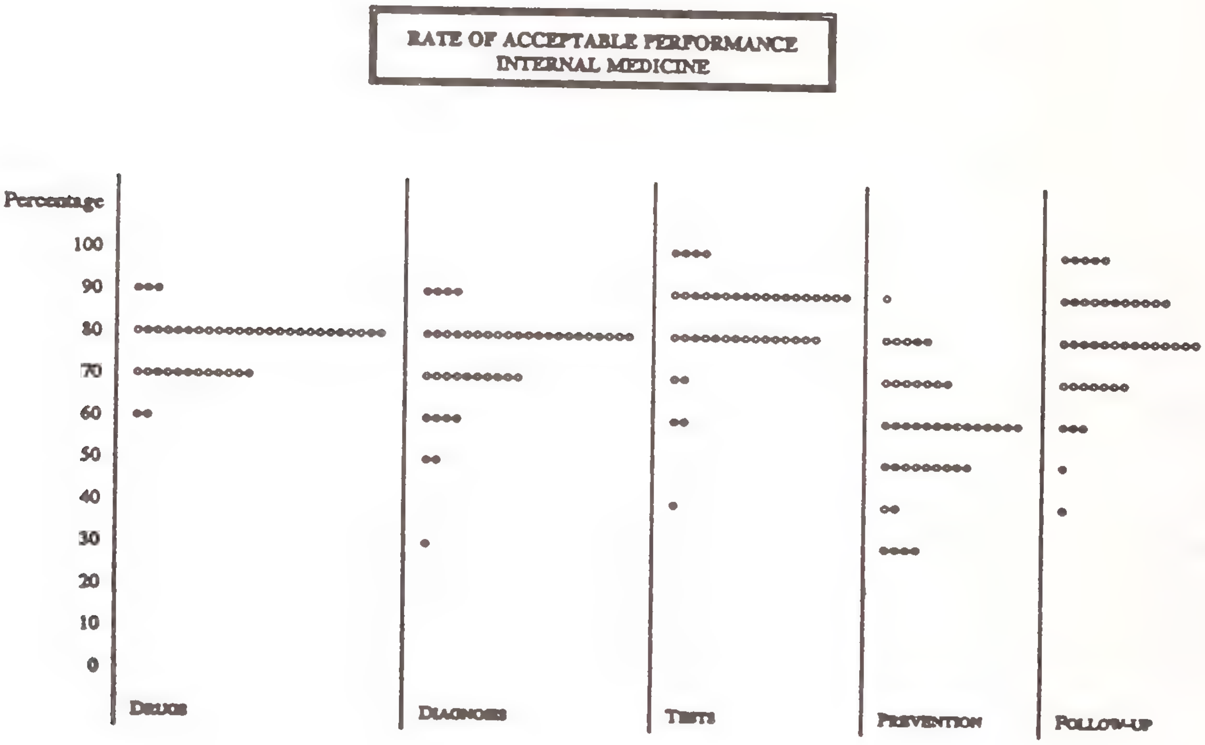
Peer group rates are constructed by averaging individual physician performance rates, by specialty. Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

FUNCTION SUMMARY REPORT

The table on the opposite page summarizes performance on six of the DEMPAQ functions, shown in the left-hand column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each function. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Diagnosis function, then you are represented by one of the dots in the 80-89% row of the Diagnosis column. Find your Drugs performance rate on the opposite page and then locate the corresponding dot in the Drugs column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

FUNCTION SUMMARY REPORT
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

	Peer Group Rates[*]	
Function	**Average Number of Items[**] per Physician**	**Average Percent Acceptable Performance**
Diagnosis	23.8	79%
Tests	17.0	88%
Drugs	37.8	81%
Prevention	19.2	64%
Follow-Up	21.1	84%

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[*] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

RECORD DOCUMENTATION ASSESSMENT

September 24, 1993

RECORD DOCUMENTATION ASSESSMENT

The Record Documentation Assessment presents a single table summarizing your performance on six categories of record documentation: date, subjective, objective assessment, plan and clinician id.

1. How to read the Record Documentation Assessment Table

The dates covered by the review appear immediately below the title. The title of the table also appears above the table, on the right, a placement which makes it easy to find the table when flipping through the book.

COLUMN	DESCRIPTION
Documentation Category	Displays one of the six of documentation categories evaluated by DEMPAQ and give the overall documentation score.
Your Scores: Number of Visits Reviewed	Shows the number of visits used to construct the rate displayed in the next column. Each patient had at least the first and last two visits evaluated for quality of documentation.
Your Scores: Average Documentation Score	Displays the average level of documentation for each of the categories. Documentation ranges from 0 (none) to 3 (adequate).
Peer Group Scores: Average Number of Visits Reviewed	Shows the average number of visits reviewed for documentation, ***per physician***.
Peer Group Rates: Average Percent Acceptable Performance	Presents the average level of documentation for each of the six categories.
Quartile Rank	Displays a comparative statistic. All rates within your specialty for a particular indicator are divided into four equal groups: 1st (lowest) quartile: your score fell between the 0th and 24th percentile, inclusive 2nd quartile: your score fell between the 25th and 49th percentile, inclusive 3rd quartile: your score fell between the 50th and 74th percentile, inclusive 4th (highest) quartile: your score fell between the 75th and 99th percentile, inclusive

2. Interpreting the Record Documentation Assessment

This report allows you to assess your average level of documentation on six different types of documentation. Complete documentation enhances not only the continuity of medical care for a patient but also provides some legal protection. A low (close to zero) score on a particular type of documentation indicates the need for improved record keeping in that area. The average rates of physicians within your specialty who submitted records for DEMPAQ review are given so you can see how your performance compares to that of your peers.[1] **Caution:** Rates based on small numbers of cases (fewer than 5) may not reflect your customary performance, because the small number gives a statistically unstable result.

The quartile rank presents another measure of comparison with your peers. Performance in the 4th quartile usually may be considered better than performance in the first quartile. **Caution:** If the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range (see diagrams on pages opposite the tables), then the differences in performance between the 1st and 4th quartiles may not be clinically important.

3. Calculating the Record Documentation Rates

The quality of record documentation is evaluated on a four point scale: 0 = no documentation, 1 = illegible documentation, 2 = minimal documentation, and 3 = adequate documentation. An average documentation score is calculated for each patient.

Figure Two

Record Documentation Rates

For a Physician

	Patient 1	Patient 2	Patient 3	Patient 4	Rate
Date	3.0	3.0	3.0	3.0	12/4 = 3.0
Subjective	2.75	1.75	2.5	3.0	10/4 = 2.5
Objective	3.0	1.5	2.25	2.75	9.5/4 = 2.4
Assessment	2.75	1.75	2.75	2.75	10/4 = 2.5
Plan	3.0	2.0	3.0	2.75	10.75/4 = 2.7
Clinician ID	2.0	1.0	1.0	1.0	5/4 = 1.25

---

[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group is determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty in the provider file, you were assigned to the general practice peer group.

Scores are then averaged across all patients to create a summary score describing a physician's average level of documentation. Scores close to zero indicate poor documentation, while scores close to 3 indicate adequate documentation.

Figure One

Record Documentation Rates

For a Single Patient

	Visit 1	Visit 2	Visit 8	Visit 9	Rate
Date	3	3	3	3	12/4=3.0
Subjective	3	3	2	3	11/4=2.75
Objective	3	3	3	3	12/4=3.0
Assessment	2	3	3	3	11/4=2.75
Plan	3	3	3	3	12/4=3.0
Clinician ID	1	1	3	3	8/4 =2.0

4. Calculating peer group rates

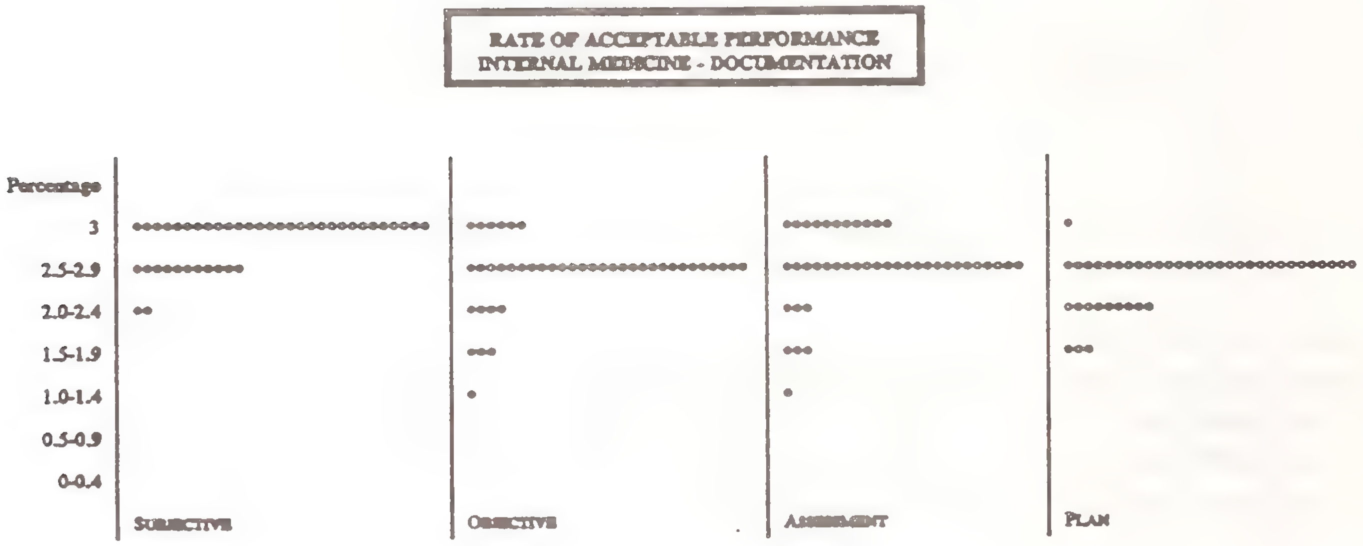
Peer group rates are constructed by averaging individual physician performance rates, by specialty. Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

RECORD DOCUMENTATION REPORT

The table on the opposite page summarizes performance on the six record documentation measures and a summary measure. First left-hand column shows the measures. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each measure. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Subjective measure, then you are represented by one of the dots in the 80-89% row of the Subjective column. Find your Plan performance rate on the opposite page and then locate the corresponding dot in the Plan column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.



RATE OF ACCEPTABLE PERFORMANCE
INTERNAL MEDICINE - DOCUMENTATION

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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

RECORD DOCUMENTATION ASSESSMENT REPORT
Review Period: July 1, 1989 - June 30, 1991

Peer Group: Internal Medicine

Documentation Category	Peer Group Documentation	
	Average Number of Visits Evaluated per Physician	Average Documentation Score
Date	68.2	3.0
Subjective	68.2	2.9
Objective	68.2	2.6
Assessment	68.2	2.7
Plan	68.2	2.5
ID	68.2	2.4
Overall	68.2	16.1

APPENDICES

APPENDIX A

DEMPAQ CLINICAL ITEMS

FUNCTION	CLINICAL ITEM
DRUGS	ACE Inhibitor Adrenergic Neuron Blocker Alpha Blocker Beta Blocker Centrally Acting Antiadrenergic Calcium Channel Blocker Direct-Acting Vasodilator Loop Diuretic Potassium Sparing Diuretic Thiazide Diuretic Ace+Thiazide Alpha Blocker + Thiazide Beta Blocker + Thiazide Centrally Acting + Thiazide Antiadrenergic + Thiazide+ Vasodilator Antiadrenergic + Vasodilator Vasodilator + Thiazide Thiazide + Potassium Sparing Nitrate Insulin Oral Hypoglycemic Corticosteroid NSAID Salicylate Beta-Adrenergic Agonist Inhaled Cholinergic Inhibitor Xanthine-Derivative Oral Beta-Adrenergic Agonist + Xanthine-Derivative Oral Beta-Adrenergic Agonist Oral Cephalosporin Erythromycin Penicillin Tetracycline Aminopenicillins Penicillinase-Resistant Penicillin Antipseudomonal penicillin Sulfonamide Sulfonamide + Trimethoprim

FUNCTION	CLINICAL ITEM
DIAGNOSES	Hypertension Ischemic Heart Disease Osteoarthritis COPD Diabetes Congestive Heart Failure
TESTS	Blood Pressure Hemoglobin/Hematocrit Cholesterol Potassium Blood Glucose Blood Gases ESR Creatinine Urinalysis ECG Joint X-Ray Chest X-Ray Mammogram
PROCEDURES	Flexible sigmoidoscopy Colonoscopy
PREVENTION	Blood Pressure Flu Shot Mammogram (women under age 75 only) Breast Exam (women only)
FOLLOW-UP	Consultation/Hospitalization Mass, Lump, Bleed

APPENDIX B

FUNCTIONS AND INDICATORS

FUNCTIONS	INDICATORS
DIAGNOSIS	Pre-existing diagnoses are appropriately monitored New diagnoses are justified by the evidence in the record Actions are taken to search for treatable causes or co-morbidities of new diagnoses
DRUGS	Drug dose and frequency appear in the record Drug is prescribed for an appropriate condition There are no condition contraindications in the record, or if present, they are justified There are no drug contraindications in the record, or if present, they are justified The patient is appropriately monitored for adverse effects of the medication
FOLLOW-UP	If the patient is hospitalized or referred, a discharge or consult note, or physician mention of the event is in the medical record If the patient has a mass, bleed, or unexplained weight loss, the finding is followed up in the time specified in the medical record, or within three months
PREVENTION	A blood pressure exam is done once in two years A flu shot occurs at least once in the two year period A breast exam is done once for women in two year period A mammogram is done once for women less than 75 years old in the two year review period
PROCEDURES	A procedure is ordered/performed for appropriate indications There is appropriate follow-up of abnormal results A biopsy is done if required The pathology report is in the medical record if a biopsy is taken The area to be visualized the 'scope' is seen
TESTS	The test is ordered/performed for appropriate conditions The patient is hospitalized or referred if required There is appropriate follow-up of abnormal results

Chapter 18
The DEMPAQ Record Review System: Results for Iowa

The report which follows shows one format for feeding information back to physicians. We fashioned the report to give physicians information unique to his or her practice and to present comparative summary data for physicians in the participant's peer specialty. The book was designed to help physicians answer several basic questions about his or her practice:

- How do I manage the most prevalent diagnoses, tests, and drugs encountered in the over-65 population?
- For which clinical activities do my practices differ from those of my colleagues?
- Are patients with vital preventive and follow-up care needs "slipping through the cracks?"
- Is my record documentation adequate to ensure continuity of care for my patients and to support risk management considerations?

For Iowa, this book provides an example of an individualized report for a specific physician. All physician identifiers have been removed to maintain confidentiality. This book also includes four different types of reports (listed below). The book starts with the specific (clinical item) and moves to the summaries (indicator and function). Each report is formatted similarly: tables on right hand page and on the facing, or left hand page, text describing the table. Below the text on some of the left hand pages is a figure displaying statewide data. Some reports (the Function Summary, Indicator Summary and Record Documentation Summary) contain graphic displays of group performance data on the left hand page.

I. **Clinical Item Report**—44 tables, one for each clinical item, showing:
   - criteria used to evaluate performance for each clinical item;
   - physician's average performance rates for each criterion; and
   - peer group (specialty) performance data.

II. **Indicator Summary**—six tables, one for each function, showing:
   - a physician's average performance rates for each indicator for that function;
   - peer group (specialty) performance data; and
   - a measure comparing the individual's performance to that of his or her peer group.

III. **Function Summary** —one table showing:
   - a physician's average performance rates for each function;
   - peer group (specialty) performance data; and
   - a measure comparing the individual's performance to that of his or her peer group.

IV. **Record Documentation Summary** —one table showing:
   - a physician's average performance on six measures of documentation;
   - peer group (specialty) performance data; and
   - a measure comparing the individual's performance to that of his or her peer group.

DEMPAQ QUALITY REVIEW SYSTEM (DQRS)

Reports from DEMPAQ Medical Record Review

Internal Medicine

(Example of Individual Physician Profile)

TABLE OF CONTENTS

I. Introduction
  Structure of DEMPAQ Review
  How the Data Were Collected and Scored
  Types of Reports in This Book
  Glossary of Frequently Used Terms

II. Clinical Item Reports

III. Indicator Summary Report

IV. Function Summary Report

V. Record Documentation Report

APPENDIX A. DEMPAQ Clinical Items

APPENDIX B. DEMPAQ Functions and Indicators

PREFACE

The tables in this book are unique to your practice. They have been produced from the data abstracted from the medical records you submitted for the DEMPAQ project.

The tables in this book also show a summary of the data for physicians in your specialty. With these data, you can compare your performance with that of your peers.

The tables presented on the following pages display performance data in several different ways to help you answer questions about your Medicare-aged patients such as:

- **How do I manage the most prevalent diagnoses, tests, and drugs encountered in the over-65 population?**

- **For which clinical activities do my practices differ from those of my colleagues?**

- **Are patients with important preventive and follow-up care needs "slipping through the cracks?"**

- **Is my record documentation adequate to ensure continuity of care for my patients and to support risk management considerations?**

GOALS OF THE DEMPAQ PROJECT

The DEMPAQ project is a three year cooperative demonstration project funded by the Health Care Financing Administration to enhance the quality of care given to Medicare beneficiaries in physician offices. The project was implemented in three states: Maryland, Alabama, and Iowa. The goals of the project include:

- Developing tools to assess the quality of ambulatory care;
- Using the tools to identify possible areas for improvement;
- Evaluating the reliability, validity, and usefulness of the tools; and
- Devising and testing methods to feedback information about performance to practicing physicians.

This book presents the results of a review of the medical records you submitted in the fall of 1991. The review covered a two year window:

July 1, 1989 through June 30, 1991

STRUCTURE OF THE DEMPAQ REVIEW

The DEMPAQ record review takes an in-depth look at patterns of care given to elderly Medicare patients in physicians' offices. The framework of the record review system follows.

Functions
FUNCTIONS are clinical activities that are commonly performed in the course of an office visit. In this report, we review the following functions:

- Prescribing and monitoring a DRUG
- Making a DIAGNOSIS
- Responding to an abnormal TEST
- Performing PREVENTIVE or SCREENING services
- FOLLOW-UP of serious health threats
- Ordering or performing a PROCEDURE
- DOCUMENTING in the medical record.

Clinical Items
A CLINICAL ITEM is a specific drug (e.g. ACE inhibitor), diagnosis (e.g. diabetes mellitus), test or procedure. The drugs we selected to review for the Drug function are commonly prescribed for the elderly population. Likewise, the diagnoses we selected for the Diagnosis function represent prevalent conditions among the elderly and account for significant morbidity. Appendix A displays the clinical items reviewed.

Indicators (Rates of performance of specific actions)
INDICATORS, (also known as performance rates) measure key actions associated with a function. For example, the indicators we selected for the Diagnosis function include:

- Monitoring a pre-existing diagnosis
- Making a new diagnosis
- Searching for treatable causes or co-morbidities of a diagnosis.

These actions represent important aspects of the clinical processes that lead to patient outcomes. For each action, we measure the rate at which it is performed for relevant patients. The DEMPAQ indicators are shown in Appendix B.

Criteria
Unique review criteria have been developed for each clinical item/indicator combination (see figure one). The criteria express the specific clinical details which represent appropriate performance of an indicator. Of course, the actions which represent appropriate monitoring for a pre-existing diagnosis of diabetes differ from the appropriate monitoring actions for ischemic heart disease (see figure two).

Figure One

Criteria for Indicators: the Basic Format

	Item 1	Item 2	Item 3	Item 4	Item 5
Indicator 1	specific criteria				
Indicator 2			specific criteria		
Indicator 3		specific criteria			specific criteria

Figure Two

Criteria for Indicators: Diagnosis

	Diabetes	HTN	IHD	CHF	COPD	OA
Old diagnosis monitoring	HgbA1C, etc.		Heart Exam, etc.			
Indications for new Dx	FBS > 140		Chest Pain, etc.			
Search for cause/comorb	Steroids		HTN,etc.			

HOW THE DATA WERE COLLECTED AND SCORED

Sample

You were invited to participate in the DEMPAQ project because your name was randomly chosen from a list of all primary care physicians who provided services to Medicare patients in Iowa. The list was generated from Medicare claims data. With the letter of invitation, we included a listing of 25 of your Medicare patients. Like you, the patients had been randomly selected. We asked for photocopied records of these 25 patients for a two year window: July 1, 1989 through June 30, 1991. The charts were mailed to the Iowa Foundation for Medical Care (IFMC) for review.

DQRS Review

The review was accomplished with a computerized record review system, developed specially for the DEMPAQ project, called DQRS (or "DEMPAQ Quality Review System"). Review criteria were stored in special data dictionaries and called into the computer program as needed. These review criteria were developed with advice and comments from the major primary care medical societies in each of the three study states. In Iowa, the groups were the Iowa Medical Society, the Iowa Clinical Society of Internal Medicine, the Iowa Academy of Family Physicians, and the Iowa Osteopathic Medical Association. Criteria were originally derived from guidelines and standard medical texts, but were revised in several cycles of review by the above mentioned physicians.

Reviewers at the PRO abstracted charts over a five month period. A five percent random sample of charts were re-reviewed by a second reviewer to make sure the abstraction rules were being followed consistently. In addition, approximately 400 records were reviewed by physicians using a structured peer review form to determine whether the review criteria were relevant and useful for assessing the of quality of care in a particular case.

Scoring

After the completion of the review, each finding is assigned one of five scores: met, acceptable alternative, not applicable, not reviewable, and flag[1]. These terms are defined in the glossary. A special computer program then calculates the acceptable performance rate on each item, indicator and function. The formula for percent acceptable performance is

$$\%\ \text{acceptable performance} = \frac{(\text{Met} + \text{AA})}{(\text{Met} + \text{AA} + \text{Flag})}$$

Summary rates are first calculated at the patient level and then averaged across all patients. This ensures that no single patient will unduly influence the summary rate.

The record documentation function is scored differently. The reviewers evaluate the quality of record documentation on a four point scale: 0 = no documentation, 1 = illegible documentation, 2 = minimal documentation, and 3 = adequate documentation. Data are then averaged across patients to create a summary score describing a physician's average level of documentation. Scores close to zero indicate poor documentation, while scores close to 3 indicate adequate documentation.

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[1] Met: meets the criterion exactly; acceptable alternative: did not meet the criterion for a set of pre-defined reasons, e.g. patient refusal; not applicable: the criterion does not apply to this case; not reviewable: the time frame for records data was insufficient to review this item for this case; flag: the case did not meet the criterion, nor any of the categories above.

TYPES OF REPORTS INCLUDED

This book includes four different types of reports, as listed below. We start with the specific (clinical item) and move to the summaries (indicator and function). Each report is formatted similarly. Tables are presented on right hand pages. On the facing, or left hand page, text describing the table appears. Below the text for some pages, is a figure displaying statewide data. Some reports (the Function Summary, Indicator Summary and Record Documentation Summary) also contain additional graphic displays of group performance data on the left hand page.

I. **Clinical Item Report** - 44 tables, one for each clinical item, showing:
  - criteria used to evaluate performance for each clinical item;
  - your average performance rates for each criterion; and
  - peer group (specialty) performance data.

II. **Indicator Summary** - six tables, one for each function, showing:
  - your average performance rates for each indicator for that function;
  - peer group (specialty) performance data; and
  - a measure comparing your performance to that of your peer group,

III. **Function Summary** - one table showing:
  - your average performance rates for each function;
  - peer group (specialty) performance data; and
  - a measure comparing your performance to that of your peer group,

IV. **Record Documentation Summary**[2] - one table showing:
  - your average performance on six measures of documentation;
  - peer group (specialty) performance data; and
  - a measure comparing your performance to that of your peer group,

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[2] The record documentation results are presented separately because the data were scored differently from the data for the other functions (see "How the Data Were Collected and Scored", p. O-4).

GLOSSARY

The following terms will be used on the report tables and throughout the accompanying text:

Acceptable alternative (AA). Score category: a pre-defined reason why a recommended action could not or should not have been done.

Acceptable performance. A criterion is either met or the medical record shows an acceptable alternative.

Clinical item. A specific diagnosis (eg. diabetes mellitus), test, procedure, or drug type (eg. ACE inhibitors) representative of the functions reviewed. Items were selected on the basis of their prevalence in the Medicare population. Appendix A contains a complete list of items reviewed.

Criterion. The specific actions or clinical findings which define recommended care for a given clinical item on a particular indicator.

DEMPAQ. DEMPAQ stands for Developing and Evaluating Methods to Promote Ambulatory Care Quality.

Flag. Score category: a criterion appears not to be met.

Function. An activity performed by clinicians in caring for patients; the functions reviewed by DRS are making and monitoring a DIAGNOSIS, responding to an abnormal TEST value, prescribing and monitoring a DRUG, performing a PROCEDURE, FOLLOW-UP of serious health threats, rendering PREVENTIVE or screening services, and DOCUMENTATION of the medical record,

Indicator. A rate for the performance of key tasks or processes which influence patient outcomes. For example: the rate of appropriate MONITORING an old diagnosis, the rate of prescribing a drug without CONTRAINDICATIONS, and the rate of performing procedures only if there are appropriate INDICATIONS.

Met. Score category: the medical record shows compliance with a given criterion.

New diagnosis or drug. A diagnosis which is newly made, or a drug which is newly prescribed ***during*** the two year review period.

Not applicable. Score category: a criterion is not applicable to the specific case being reviewed.

Not reviewable. Score category: a case cannot be scored because the medical record does not contain the entire time frame specified by the criterion.

Peer group. Physicians in your state in your specialty group.

Performance rate. The percent of cases where the medical record shows compliance or acceptable alternative for an indicator.

Pre-existing diagnosis or drug. A diagnosis which was made or a drug which was prescribed ***prior*** to the beginning of the two year review period.

Quartile rank. The ranking of your performance rate, where a percentile distribution of rates has been divided into four equal parts. The higher the rank (e.g., 3 or 4), the better the performance.

- A rank of 1 means your performance rate fell between the 0th and 24th percentile, inclusive
- A rank of 2 means your performance rate fell between the 25th and 49th percentile, inclusive
- A rank of 3 means your performance rate fell between the 50th and 74th percentile, inclusive
- A rank of 4 means your performance rate fell between the 75th and 99th percentile, inclusive.

Score. A way of categorizing the findings of the review. Possible scores are MET, ACCEPTABLE ALTERNATIVE (AA), and FLAG; cases considered NOT APPLICABLE and NOT REVIEWABLE receive scores of 'NA' or 'NR.'

CLINICAL ITEM REPORTS

October 27, 1993

CLINICAL ITEM REPORTS

The Clinical Item Reports present one table for each clinical item on the right-hand page and a graph on the left-hand page. The table contains data unique to your practice and for your peer group; the graph displays statewide information. The tables are grouped clinically, e.g. all the tables related to diabetes care are grouped together: diabetes diagnosis, insulin, oral hypoglycemic drugs, blood glucose test, and urinalysis dipstick

1. How to read the Clinical Item report

The function reviewed is shown in the title. The dates covered by the review appear immediately below the title. The clinical item name appears above the table, on the right; the item code, (used by the DEMPAQ self-assessment workbook) at the left. The placement of the clinical item name, on the outside edge of the table, makes it easy to find the table when flipping through the book.

Your study number appears below the review dates, along with your peer group designation. Your peer group was determined from the specialty code on the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

The following describes how to read the clinical item table.

COLUMN	DESCRIPTION
Indicator	Displays the indicators associated with the function (Drugs, Tests, etc.) listed in the title for this page.
Criterion	Presents the criteria used to construct the indicator. The criteria are unique to the clinical item shown in the top right hand corner, just above the table.
Your Rates: Number of Patients	Shows the number of patients who were included in the rate displayed in the next column. A clinical item is evaluated only once per patient. For example, if a patient has multiple abnormal creatinine values in the record, only the first found in the records you sent triggers review.
Your Rates: Percent Acceptable Performance	Displays the "percent acceptable performance" rate on a criterion. Performance is acceptable when a criterion is met or the medical record shows an acceptable alternative (see GLOSSARY for definitions). See below for information on how the rates were calculated.
Peer Group Rates: Average Number of Patients	Shows the average number of patients ***per physician*** included in the rate shown in the next column.
Peer Group Rates: Average Percent Acceptable Performance	Presents the average percent acceptable performance rate for all physicians in your peer group. See below for information on how the rates were calculated.

2. How to interpret the Clinical Item Reports

These tables will give you an idea of how often you perform selected activities for your patients 65 and older. The average rates of physicians within your specialty who submitted records for DEMPAQ review are given so you can compare your performance to your peers. **Caution:** The number of cases in these tables tends to be small, so your rates may not be representative of your customary performance.

3. Calculating the Clinical Item Rates

Figure one below shows how the acceptable performance scores (MET and AA) for each patient are added together and divided by the total number of scores for a doctor (MET + AA + FLAG) to give a performance rate for each criterion (see rows 1 and 3, below). A physician's monitoring rate is calculated by averaging individual patient monitoring scores (see row 3, below).

Figure One

Calculating Rates for a Clinical Item

Diabetes Diagnosis

	Patnt 1	Patnt 2	Patnt 3	Patnt 4	Patnt 5	Rate*
If on Steroids, review	NA	NA	Met	Flag	Flag	1/3=33%
Bl. glu > 250 with symps, etc.	NA	NA	Met	Met	Flag	2/3=67%
Overall Dx Monitor	75%	38%	NA	NA	NA	(75+38)/2=57%

*Rate=(Met+AA)/(Met+AA+Flag)
*Rate=Met,AA=1
*Rate=Flag+0

Each monitoring rate may be derived from up to eight individual monitoring scores. Overall monitoring rates are the percentage of monitoring criteria with met or acceptable alternative findings. In the example below, patient number one has 6 met or AA scores on the individual criteria, one flag score and one score which is not included in either the numerator or the denominator. Thus, the overall monitoring rate for patient one is 86%.

Figure Two

Calculating Rates for Monitoring

Diabetes Diagnosis

	Patient 1	Patient 2	Rate*
Overall Dx Monitor Rate	6/7=86%	3/8=38%	(75+38)/2=57%
Comment control	Met	Flag	1/2 = 50%
Wt, pulse, BP	Met	Met	2/2 = 100%
HgbA1C	Flag	Flag	0/2 = 0%
U/A Dipstick	Met	Met	2/2 = 100%
Blood Glucose	AA	Met	2/2 = 100%
Diet Comply	AA	Flag	1/2 = 50%
Heart, leg, foot exam	Met	Flag	1/2 = 50%
Fundoscopy	NR	Flag	1/2 = 50%

*For Criteria: Rate=(Met+AA)/(Met+AA+Flag)
*For Overall: Rate= average of overall rates
*Met,AA = 1: Flag= 0

4. Calculating peer group rates

Peer group rates are constructed by averaging individual physician performance rates, by specialty. Only physicians who submitted records for the DEMPAQ review are included in the peer group rate.

5. What is NOT included in these tables

Several clinical items have been excluded from this report, although data were collected for them. These clinical items appear in the DEMPAQ workbook. The items were excluded for one of two reasons: either there were too few cases to report (less than 30 in the entire state) or problems with the criteria and abstracting instructions lead to unusable results. Excluded items include:

- Adrenergic neuron blockers
- Direct acting vasodilators
- Potassium sparing diuretics
- Alpha blocker + thiazide
- Beta blocker + thiazide
- Centrally acting + thiazide
- Antiadrenergic + Thiazide+ Vasodilator
- Vasodilator + thiazide
- Antiadrenergic + vasodilator
- Corticosteroids
- Salicylate
- NSAIDs
- Oral beta-adrenergic + xanthine
- Penicillin
- Antipseudomonal penicillin
- Sulfonamide
- ESR test
- Blood gases
- Joint X-ray
- Rheumatoid arthritis
- Flexible Sigmoidoscopy
- Colonoscopy

6. Where to go for more information

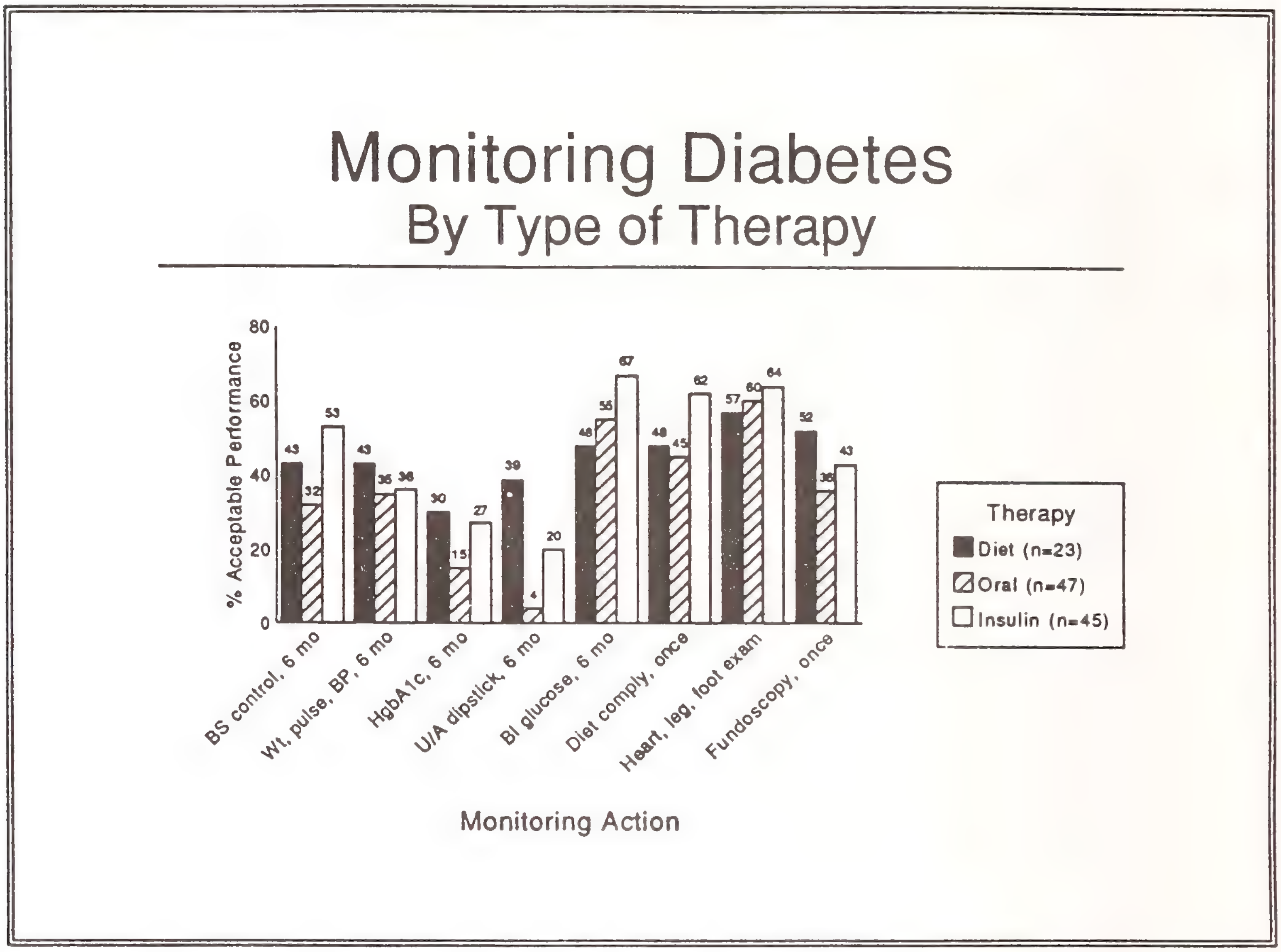
The DEMPAQ Self-Assessment Workbook contains the full text for each of the criteria shown on these tables with references to the medical texts and guidelines from which the criteria were derived. If you wish more information about why a particular criterion was selected, the Workbook will supply that information.

The tables in the next two sections, the Indicator Summary and Function Summary reports, provide aggregate information about performance.

DIABETES

The table on the opposite page displays the results of the review of your diabetic patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the diabetes criteria compared to your specialty group rates.

The figure below shows statewide diagnosis monitoring by three different types of therapy.



CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 05 **DIABETES**

Indicator	Criterion	Your Rates		Peer Group Rates[*]	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	5	77%	2.5	54%
	Comment on bl. glucose control - q. 6 mos	5	80%	2.5	58%
	Weight, pulse, BP - q. 6 mos	5	80%	2.5	48%
	HgbA1C or fructosamine - q. 6 mos	5	80%	2.5	39%
	Urinalysis dipstick for protein and microscopic exam of sediment - q. 6 mos	5	40%	2.5	30%
	Bl. glucose - q. 6 mos	5	80%	2.5	55%
	Document dietary compliance - once	5	80%	2.5	59%
	Heart exam, leg and foot exam - once	5	80%	2.5	79%
	Fundoscopy - once	5	100%	2.5	57%
Evidence for a New Diagnosis	Bl. glucose >250 with symptoms of DM OR two FBS >140 OR bl. glucose levels during GTT >250 at 2 hrs and some point between 0 and 2 hrs	0	%	0.2	0%
Search for Treatable Causes	If on steroids, possible potentiating role reviewed	0	%	0.2	33%

The data in this column are based on 15 physicians who treated 38 patients with pre-existing diagnoses and 3 patients with new diagnoses.

INSULIN

The table on the opposite page displays the results of the review of those patients on insulin, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the insulin criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Regular	Iletin
Regular+Isophane	Mixtard
Regular, human	Humulin
Regular+Isophane	Humulin 70/30, Mixtard 70/30, Novolin 70/30
Isophane (NPH)	NPH Iletin
Isophane, human	Humulin N
Zinc	Lente Iletin
Zinc, human	Humulin L, Novolin L
Extended Zinc	Ultralente Iletin
Extended Zinc, human	Humulin U Ultralente
Prompt Zinc	Semilente Iletin
Protamine Zinc	Protamine Zinc & Iletin

CLINICAL ITEM REPORT - Drugs

Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 31 **INSULIN**

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	4	100%	1.5	80%
	Dose Documented	4	100%	1.5	100%
	Frequency Documented	4	100%	1.5	80%
Drug Indications	Drug prescribed appropriately for: Insulin-dependent/non-insulin-dependent DM	2	100%	0.5	100%
Condition Contraindications	NA				
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Fenfluramin, long-term high-dose corticosteroid therapy, beta blockers	4	100%	1.5	75%
Drug Monitoring	Overall Monitoring Score	4	138%	1.5	69%
	Old Drugs:				
	Blood glucose - q. 3 mos	2	100%	1.0	33%
	HgbA1C or fructosamine - once	2	100%	1.0	67%
	New Drugs:				
	Blood glucose - within 3 mos start of therapy	2	100%	0.5	50%
	HgbA1C or fructosamine - within 3 mos start of therapy	2	50%	0.5	38%
	If on beta blocker, educate re hypoglycemia.	0	%	0.0	%

+ The data in this column are based on 10 physicians who treated 10 patients with pre-existing prescriptions and 5 patients with new prescriptions.

ORAL HYPOGLYCEMIC

The table on the opposite page displays the results of the review of those patients on oral hypoglycemic drugs, with comparison to your specialty. The five drug indicators are displayed in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Acetohexamide	Dymelor
Chlorpropamid	Diabinese, Glucamide
Glipizide	Glucotrol
Glyburide	Diabeta, Micronase
Tolazamide	Tolamide, Tolinase
Tolbutamide	Oramide,Orinase

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 32 **ORAL HYPOGLYCEMIC**

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	3	100%	1.9	86%
	Dose Documented	3	100%	1.9	86%
	Frequency Documented	3	100%	1.9	86%
Drug Indications	Drug prescribed appropriately for: DM, non-insulin-dependent or diabetes insipidus, partial central	0	%	0.1	100%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Patient >65 (chlorpropamide), renal impairment (glyburide)	3	100%	1.9	98%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Beta blockers, insulin **Risk/benefit:** Phenytoin, long-term high-dose corticosteroids, anticoagulants, thiazides, calcium channel blockers, long-term high-dose salicylates, captopril	3	67%	1.9	42%
Drug Monitoring	Overall Monitoring Score	3	117%	1.8	65%
	Old Drugs:				
	Blood glucose - q. 3 mos	3	100%	1.6	37%
	HgbA1C - once	3	67%	1.6	45%
	If on anticoagulants - PT q. 1 mo	0	%	0.1	0%

(cont.)

+ The data in this column are based on 14 physicians who treated 24 patients with pre-existing prescriptions and 2 patients with new prescriptions.

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
	New Drugs:				
	Bl. glucose - within 3 mos start of therapy	0	%	0.1	50%
	HgbA1C - within 3 mos start of therapy	0	%	0.1	50%
	If on anticoagulants - PT within 1 wk start of therapy	0	%	0.0	%
	If on beta blockers, note in record re education to patient about hypoglycemia	0	%	0.1	100%
	If on chlorpropamide - Na+ within 1 mo start of therapy	0	%	0.0	%

+ The data in this column are based on 14 physicians who treated 24 patients with pre-existing prescriptions and 2 patients with new prescriptions.

BLOOD GLUCOSE

The table on the opposite page displays the results of the review of those patients with abnormal blood glucose tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 05 **GLUCOSE-FASTING AND RANDOM BLOOD LEVELS**

Indicator	Criterion	Your Rates: Number of Patients	Your Rates: Percent Acceptable Performance	Peer Group Rates*: Average Number of Patients per Physician	Peer Group Rates*: Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Annually if obese, family history of diabetes, or had gestational diabetes:** **Conditions:** Alcoholism, polyuria, polydipsia, polyphagia, wt loss, visual changes, glycosuria, DM, confirm self-monitoring values		%	1.5	97%
Test Urgent Response	Patient referred to hospital or ER for lab values: Glucose >400 with ketonuria and metabolic ketoacidosis **OR** glucose >700 and change in mental status.		%	0.0	%
Test Response	Overall score:		%	1.5	35%
	Abnormal test results appropriately followed up:				
	Not Known to be Diabetic:				
	Glucose <50: Within 1 wk repeat glucose after 12-hr fast **OR** get plasma insulin.		%	0.0	%
	Blood glucose >140 (if known to be fasting): Within 1 mo recheck before diagnosing DM, either with fasting glucose, glucose tol. test, **OR** 2-hr post-prandial test. Perform dipstick urinalysis for glycosuria/ketonuria. Review results within 2 wks.		%	0.2	0%
	Glucose >250: Within 3 mos dipstick urinalysis for glycosuria/ketonuria and if ketones positive, perform FBS **OR** bl. glucose at timed relationship to intake and serum electrolytes. Review results in 1 wk. If ketones neg., recheck bl. glucose at a known time interval after intake **OR** perform fasting bl. glucose.		%	0.1	0%
	Glucose >250 and urine ketones positive: Within 2 days bl. glucose, fasting or at timed relationship to intake and serum electrolytes. Review results within 1 wk.		%	0.0	%
	Glucose >250 but symptoms of wt loss, excess fluid intake, excess urine: Within 1 wk diagnose diabetes and start therapy with dietary advice, with or w/o oral hypoglycemic or insulin therapy. Review results within 1 wk.		%	0.0	%

(cont'd)

* The data in this column are based on 11 physicians and 17 patients.

Indicator	Criterion	Your Rates		Peer Group Rates*	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
	Known to be Diabetic:				
	Glucose <50: Within 2 days ask if symptoms of hypoglycemia; if yes, decr. dose of oral agent (or disc. if low dose) **OR** decr. insulin dose.		%	0.0	%
	Bl. glucose >250 (not known to be fasting) or >170 (fasting): Within 1 wk start or incr. dose of oral antidiabetic **OR** start insulin therapy **OR** change insulin regime unless noted why action not performed (e.g., infec., stress, poor dietary compliance).		%	1.2	43%

* The data in this column are based on 11 physicians and 17 patients.

URINALYSIS

The table on the opposite page displays the results of the review of those patients with abnormal urinalysis tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the urinalysis criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 09 **URINE DIPSTICK**

Indicator	Criterion	Your Rates		Peer Group Rates*	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions: Any Visit:** Suspicion of urinary tract infec., known DM, HTN, trauma, kidney stones, susp. of renal or urinary tract disease, disease that may affect renal func., polyuria, oliguria, on drugs that may affect renal func.		%	1.7	100%
Test Urgent Response	Patient referred to hospital or ER for lab values: 4+ ketones with or w/o glucose (unless on diet or fasting)		%	0.0	%
Test Response	Overall score: Abnormal test results appropriately followed up:		%	1.7	52%
	≥3 + urine glucose in diab: Within 1 wk check dietary and med. compl. and change therapy if req. If in nondiabetic, within 1 wk check bl. glucose at timed relationship to food intake, check urine ketones. Review results in 1 mo.		%	0.2	0%
	≥1 + protein, new finding, no known diab: Within 2 wks check urine cult. or leukocyte esterase. If infec., treat appropriately OR if not infec., within 2 wks check early a.m. urine sediment and dipstick and serum creat. If early a.m. proteinuria found, check 24-hr urine for protein. Rev. results in 1 mo.		%	0.2	0%
	≥1 + protein, new finding, known diab. or HTN, or drugs that affect kidney func: Within 2 wks check urine cult. and serum creat. If infec., treat with antibiotics. See patient to review results within 1 mo. OR if no infec., within 2 wks check urine sediment, serum creat. See patient to review findings in 2 wks or req. consult or referral.		%	0.6	38%

(cont'd)

* The data in this column are based on 9 physicians and 15 patients.

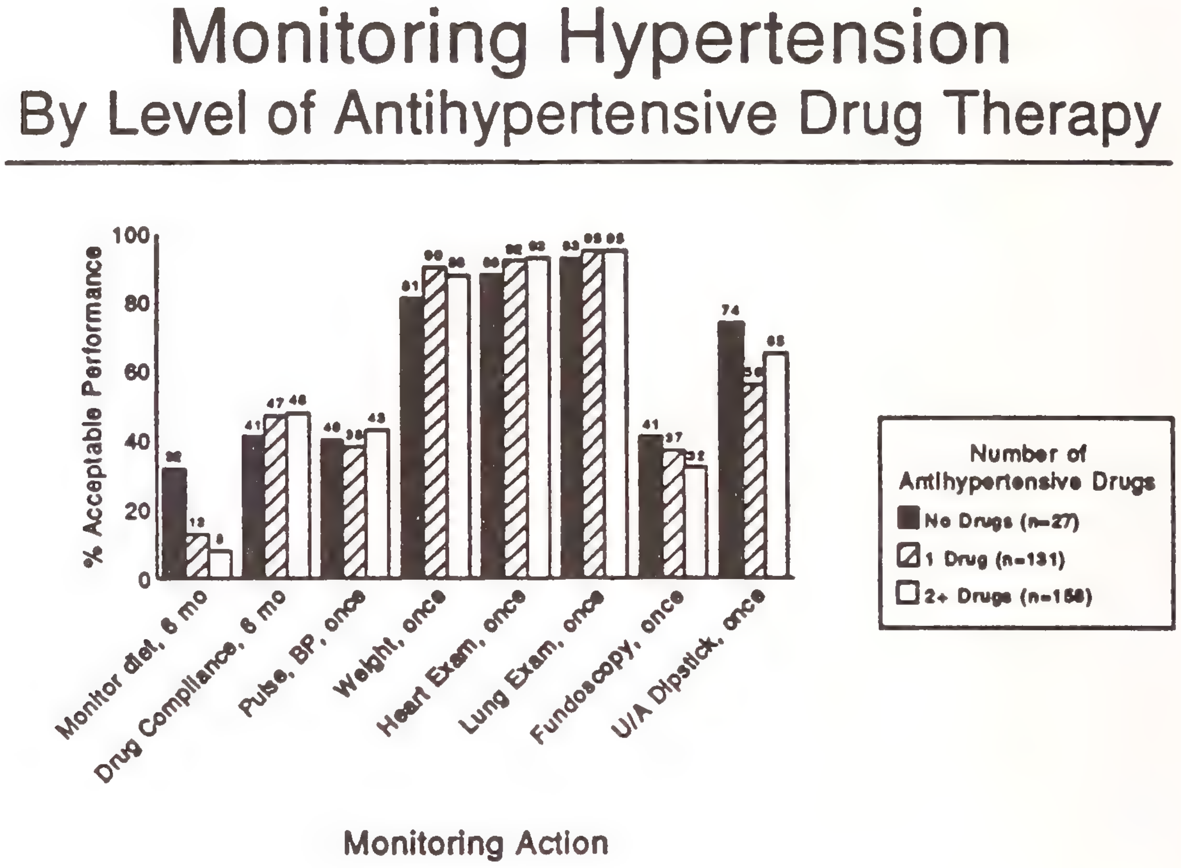
Indicator	Criterion	Your Rates		Peer Group Rates*	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
	4+ protein, no DM, repeat urinalysis. Check serum creat., quantitative protein, or creat/protein ratio. If >3g protein in 24 hrs or equivalent on spot urine, do urine immunoassay, electrophoresis, and review results within 1 mo **OR** request consult **OR** referral.		%	0.0	%
	1+ leukocyte esterase: Within 1 wk check urine cult. or microsc. exam. If positive, start treatment.		%	0.7	88%
	≥1+ ketones, no urine glucose: Within 1 wk review history for fasting, dehydration, alcohol use. Hydrate and review patient by next day. **OR** ≥1+ ketones and urine glucose: Within 1 wk check bl. glucose at known relationship to food intake, serum total CO_2 and ketones. REview by next day.		%	0.0	%
	≥1+ heme: Within 2 wks check for urinary infec. If infec., treat with antibiotic. **OR** ≥1+ heme, no urinary infec., with ≥1+ proteinuria: Within 2 wks microsc. exam of urine sediment. If hematuria confirmed and red cell casts seen, refer to nephrology. If no red cell casts seen, do IVP **AND/OR** cystoscopy **AND/OR** ultrasound. **OR** ≥1+ heme, no urine infec., no proteinuria: Within 2 wks prostate exam in male, pelvic exam in female. Do IVP **AND/OR** cystoscopy **AND/OR** ultrasound.		%	0.0	%

* The data in this column are based on 9 physicians and 15 patients.

HYPERTENSION

The table on the opposite page displays the results of the review of your hypertensive patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the hypertension criteria compared to your specialty group rates.

The figure below presents statewide data for patients with hypertension.



CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 01 **HYPERTENSION**

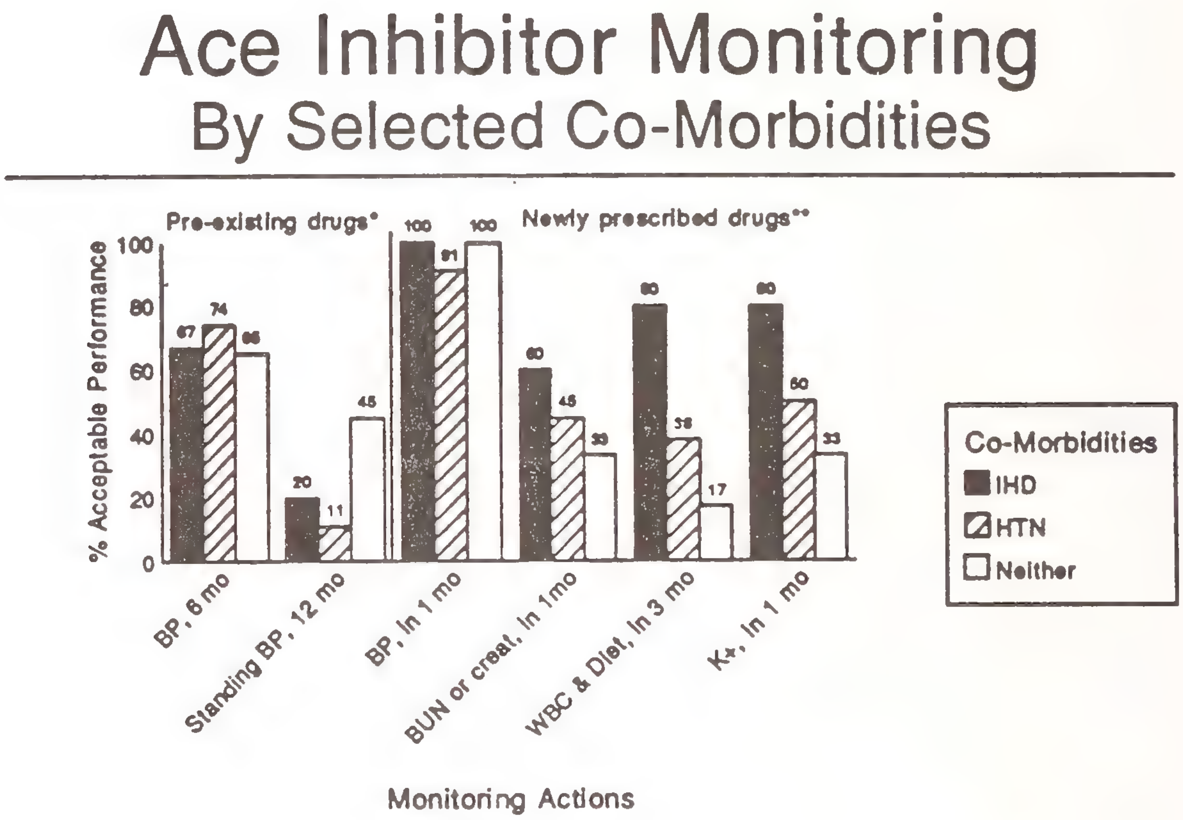
Indicator	Criterion	Your Rates		Peer Group Rates*	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	8	70%	7.6	69%
	Monitor diet - q. 6 mos	8	13%	7.4	22%
	Monitor drug compliance (if applicable) - q. 6 mos	8	63%	5.9	50%
	Pulse, BP - q. 6 mos	8	75%	7.4	51%
	Weight - once	8	100%	7.6	99%
	Heart exam - once	8	100%	7.5	98%
	Lung exam - once	8	100%	7.6	99%
	Fundoscopy - once	8	63%	7.6	56%
	U/A dipstick for protein - once	8	50%	7.6	74%
Evidence for a New Diagnosis	DBP ≥90 on two occasions OR SBP ≥140 on two occasions OR any DBP ≥130	0	%	0.4	80%
Search for Treatable Causes	If DBP >105 on two occasions, look for renal disease AND hyperaldosteronism AND obesity AND inq. re alcohol intake AND if on hypertensive med., possible causative role.	0	%	0.4	60%

The data in this column are based on 14 physicians who treated 106 patients with pre-existing diagnoses and 6 patients with new diagnoses.

ACE INHIBITORS

The table on the opposite page displays the results of the review of those patients on ACE inhibitors, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the ACE Inhibitor criteria compared to your specialty group rates.

The figure below presents statewide data for all patients taking ACE inhibitors.



Ace Inhibitor Monitoring
By Selected Co-Morbidities

* Pre-existing drugs: n=15 (IHD), n=38 (HTN), n=23 (Neither)
** Newly prescribed drugs: n=5 (IHD), n=22 (HTN), n=6 (Neither)

Drugs within this class

Generic	Trade
Captopril	Capoten
Enalapril	Vasotec
Lisinopril	Prinivil, Zenstril

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 01 ANGIOTENSIN-CONVERTING ENZYME (ACE) INHIBITOR

		Your Rates		Peer Group Rates+	
Indicator	Criterion	Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	6	100%	3.5	91%
	Dose Documented	6	100%	3.5	91%
	Frequency Documented	6	100%	3.5	91%
Drug Indications	Drug prescribed appropriately for: HTN, CHF, Bartter's syndrome	2	100%	1.2	94%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Risk/benefit:** Angioedema, hyperkalemia, COPD, chronic cough	6	83%	3.5	77%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Potassium-sparing diuretics	6	100%	3.5	94%
Drug Monitoring	Overall Monitoring Score	6	71%	3.2	67%
	Old Drugs:				
	BP - q. 6 mos, regular	4	100%	2.1	86%
	BP - q. 12 mos, standing	4	50%	2.0	46%
	If renal dis. - BUN or creat. q. 3 mos	1	100%	0.1	100%
	New Drugs:				
	BP - within 1 mo start of therapy	2	100%	1.1	93%
	BUN or creat. - within 1 mo	2	50%	1.1	40%
	WBC and diff. - within 3 mos	2	50%	1.1	48%
	K+ - within 1 mo	2	50%	1.1	38%
	If renal dis.- BUN or creat. within 3 mos	0	%	0.0	%

+ The data in this column are based on 11 physicians who treated 25 patients with pre-existing prescriptions and 13patients with new prescriptions.

ALPHA BLOCKERS

The table on the opposite page displays the results of the review of those patients on alpha blockers, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the alpha blocker criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Prazosin	Minipress
Terazosin	Hytrin

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 03 **ANTIADRENERGIC - PERIPHERAL ALPHA BLOCKER**

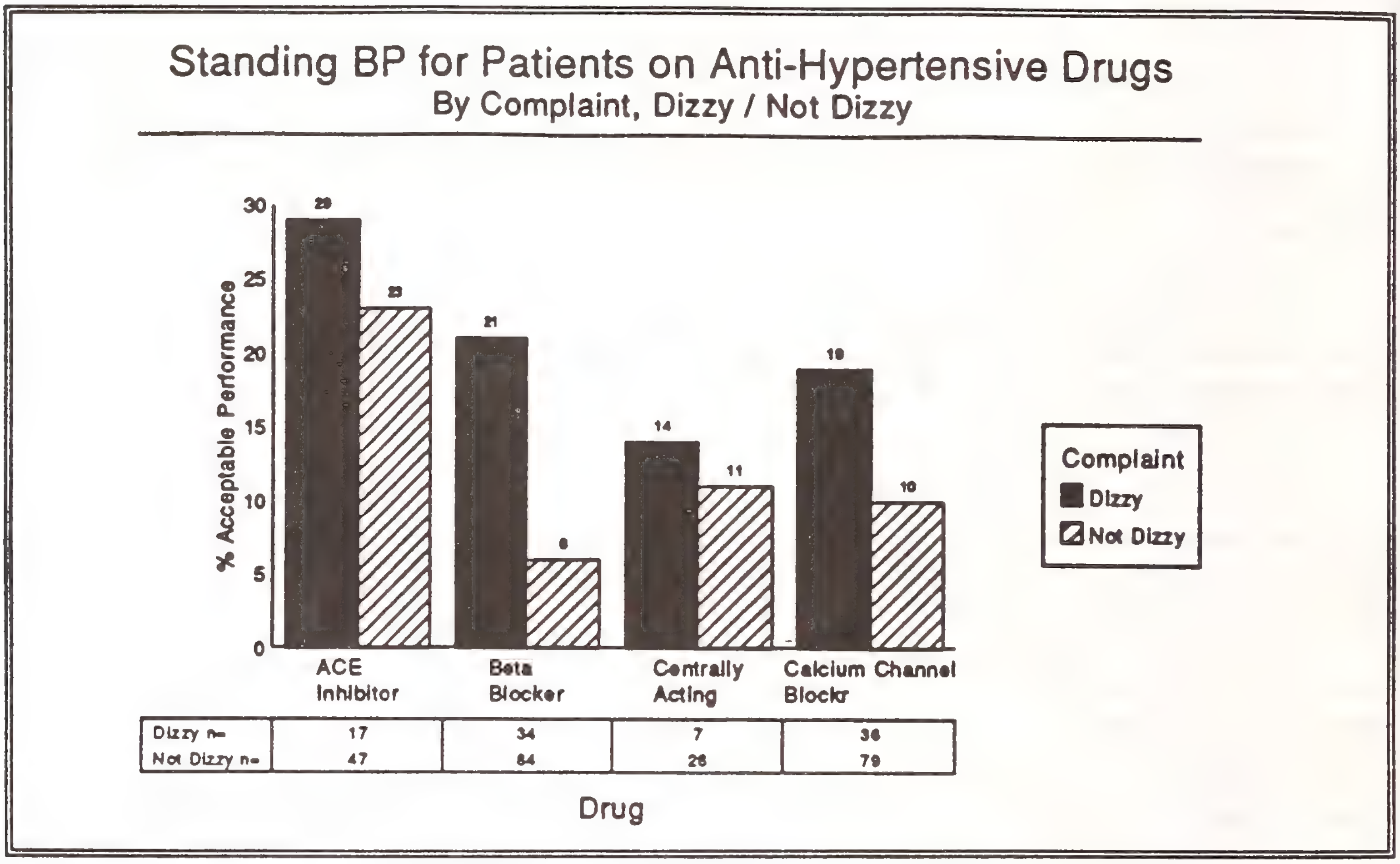
Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1	100%	1.2	89%
	Dose Documented	1	100%	1.2	100%
	Frequency Documented	1	100%	1.2	89%
Drug Indications	Drug prescribed appropriately for: HTN, CHF, Raynaud's phen., bladder outlet obstr., benign prostatic hypertrophy	0	%	0.7	40%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Risk/benefit:** Orthostatic hypotension	1	100%	1.2	100%
Drug Contraindications	NA				
Drug Monitoring	Overall Monitoring Score	1	50%	1.1	67%
	Old Drugs:				
	BP - q. 6 mos, regular	1	100%	0.4	50%
	BP - q. 12 mos, standing	1	0%	0.4	17%
	If CHF - wt and lung exam q. 6 mos	0	%	0.1	0%
	New Drugs:				
	BP - within 1 mo start of therapy	0	%	0.7	90%
	If CHF - wt and lung exam within 1 mo start of therapy	0	%	0.1	100%
	If angina - within 1 mo start of therapy educate patient re possible exacerbation	0	%	0.0	%
	If incontinence - follow-up visit within 1 mo start of therapy	0	%	0.0	%

+ The data in this column are based on 9 physicians who treated 5 patients with pre-existing prescriptions and 6 patients with new prescriptions.

BETA BLOCKERS

The table on the opposite page displays the results of the review of those patients on beta blockers, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the beta blocker criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking beta blockers.



	ACE Inhibitor	Beta Blocker	Centrally Acting	Calcium Channel Blockr
Dizzy n=	17	34	7	36
Not Dizzy n=	47	84	28	79

Drugs within this class

Generic	Trade
Acebutolol	Sectral
Atenolol	Tenormin
Carteolol	Cartrol
Labetalol	Normodyne, Trandate
Metoprolol	Lopressor
Nadolol	Corgard
Penbutolol	Levatol
Pindolol	Visken
Propranolol	Inderal
Timolol	Blocadren
Kerlone	Betaxolol

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 04 **ANTIADRENERGIC - BETA BLOCKER**

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	4	100%	3.3	86%
	Dose Documented	4	100%	3.3	92%
	Frequency Documented	4	100%	3.3	86%
Drug Indications	Drug prescribed appropriately for: Angina, vent. arrhyth., HTN, hypertrophic cardiomyopathy, myocardial reinfarct prophylaxis, pheochromocytoma, vascular headache prophylaxis, non-Parkinson's tremor, "stage-fright" anxiety, thyrotoxicosis, Barlow's synd., atrial arrhythmias	1	0%	0.5	42%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Heart block, asthma, COPD **Risk/benefit:** Mental depression, Raynaud's phen., intermittent claudication	4	50%	3.3	93%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Calcium ch. blockers, oral antidiabetic agents, insulin, indomethacin, Timolol eyedrops	4	75%	3.3	80%
Drug Monitoring	Overall Monitoring Score	4	75%	3.2	75%
	Old Drugs:				
	Lung exam - once	3	100%	2.8	95%
	Pulse rate - once	3	100%	2.8	93%
	BP - q. 6 mos, regular	3	67%	2.6	74%

+ The data in this column are based on 16 physicians who treated 45 patients with pre-existing prescriptions and 8 patients with new prescriptions.

(cont'd)

CLINICAL DETAIL REPORT - DRUGS
CODE: 04

ANTIADRENERGIC-BETA BLOCKER

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
	BP - q. 12 mos, standing	3	0%	2.5	23%
	If depression - mental state (mood) once	0	%	0.2	100%
	If asthma or emphysema - lung exam once	0	%	0.1	0%
	New Drugs:				
	Lung exam - within 1 mo start of therapy	1	100%	0.4	40%
	Pulse rate - within 1 mo start of therapy	1	100%	0.4	60%
	BP - within 1 mo stgart of therapy	1	100%	0.4	80%
	If depression - mental state within 3 mos	0	%	0.1	0%
	If on oral hypoglycemia or insulin, educate patient re masking of hypoglycemia	0	%	0.0	%
	If asthma/emphysema - lung exam within 1 mo start of therapy	0	%	0.0	%

+ The data in this column are based on 16 physicians who treated 45 patients with pre-existing prescriptions and 8 patients with new prescriptions.

CENTRALLY ACTING ANTIADRENERGIC

The table on the opposite page displays the results of the review of those patients on centrally acting antiadrenergic drugs, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the centrally acting drug criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Clonidine	Catapres (includes patches)
Guanabenz	Wytensin
Guanfacine	Tenex
Methyldopa	Aldomet
Reserpine	Serpasil

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 05 ANTIADRENERGIC - CENTRALLY ACTING

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2	100%	1.3	86%
	Dose Documented	2	100%	1.3	86%
	Frequency Documented	2	100%	1.3	86%
Drug Indications	Drug prescribed appropriately for: HTN; headache, vascular; nicotine dependence	0	%	0.3	100%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Hepatic disease (active) **Risk/benefit:** Mental depression	2	100%	1.3	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Tricyclic antidepressants, monoamine oxidase inhibitors	2	100%	1.3	100%
Drug Monitoring	Overall Monitoring Score	2	50%	1.3	61%
	Old Drugs:				
	BP - q. 6 mos, regular	2	50%	1.0	92%
	BP - q. 12 mos, standing	2	50%	1.0	42%
	Mental status (mood) - once	2	50%	1.0	58%
	If methyldopa - CBC, Hct once	1	0%	0.4	67%
	New Drugs:				
	BP - within 1 mo start of therapy	0	%	0.3	100%
	Mental status (mood) - within 3 mos	0	%	0.3	0%
	If methyldopa - HCT, CBC within 3 mos	0	%	0.0	%
	If methyldopa - SGOT, SGPT within 3 mos	0	%	0.0	%

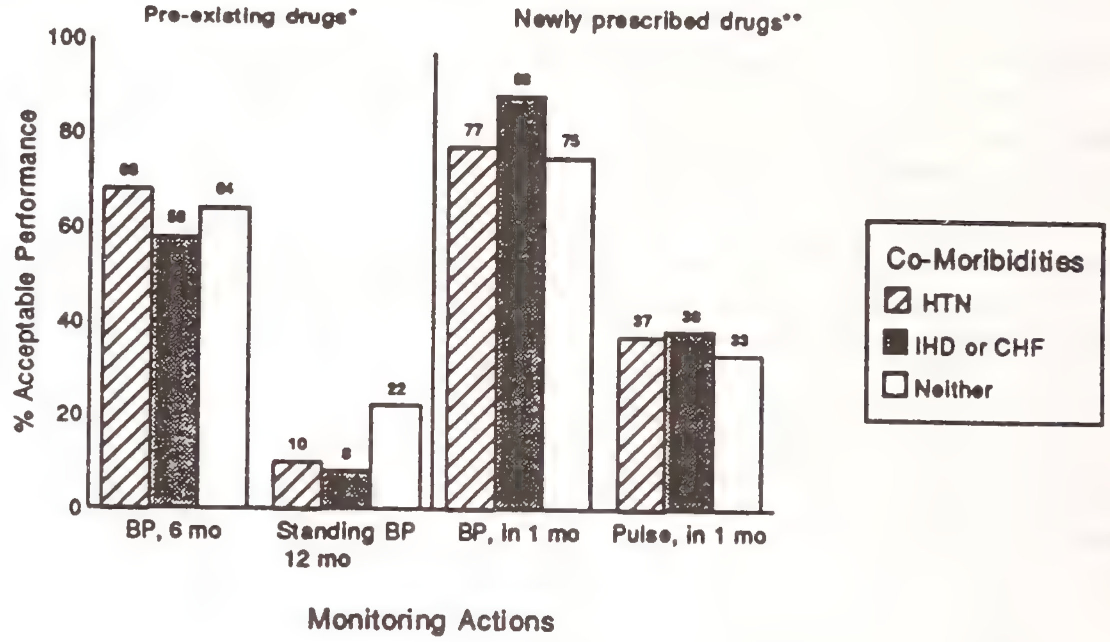
+ The data in this column are based on 7 physicians who treated 7 patients with pre-existing prescriptions and 2 patients with new prescriptions.

CALCIUM CHANNEL BLOCKER

The table on the opposite page displays the results of the review of those patients on calcium channel blockers with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the calcium channel criteria compared to your specialty group rates.

The figure below shows statewide data for patients taking calcium channel blockers.

Calcium Channel Blocker Monitoring
with Selected Co-Morbidities



* Pre-existing drugs: n=50(HTN), n=52(IHD or CHF), n=42(Neither)
**Newly prescribed drugs: n=35(HTN), n=16(IHD or CHF), n=9(Neither)

Drugs within this class

Generic	Trade
Diltiazem	Cardizem
Nicardipine	Cardene
Nifedipine	Adalat, Procardia
Verapamil	Calan, Isoptin, Verelan

CLINICAL ITEM REPORT- Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 06 **CALCIUM CHANNEL BLOCKER**

		Your Rates		Peer Group Rates[*]	
Indicator	**Criterion**	Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	5	100%	3.5	90%
	Dose Documented	5	100%	3.5	94%
	Frequency Documented	5	100%	3.5	94%
Drug Indications	Drug prescribed appropriately for: Angina, HTN, Raynaud's phen., hypertrophic cardiomyopathy, migraine	0	%	0.8	92%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Heart block, sick sinus synd., Wolff-Parkinson-White synd. **Risk/benefit:** Bradycardia, CHF	5	40%	3.5	86%
Drug Contraindications	NA				
Drug Monitoring	Overall Monitoring Score	3	83%	3.1	53%
	Old Drugs:				
	BP - q. 6 mos, regular	3	100%	2.3	75%
	BP - q. 12 mos, standing	3	67%	2.2	25%
	New Drugs:				
	BP - within 1 mo start of therapy	0	%	0.8	85%
	Pulse - within 1 mo start of therapy	0	%	0.8	32%
	If taking beta blocker - pulse rate and rhythm or ECG within 1 mo start of therapy	0	%	0.1	0%
	If on digoxin and add verapamil - digitalis level or lower digoxin dose within 1 mo start of therapy	0	%	0.1	100%

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[*] The data in this column are based on 16 physicians who treated 43 patients with pre-existing prescriptions and 13 patients with new prescriptions.

ACE INHIBITOR + THIAZIDE DIURETIC

The table on the opposite page displays the results of the review of those patients on combination ACE inhibitor/thiazide diuretic with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Hydrochlorothiazide+Captopril	Capozide
Hydrochlorothiazide+Enalapril	Vaseretic
Hydrochlorothiazide+Lisinopril	Prinizide, Zestoretic

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 11 **ACE INHIBITOR + THIAZIDE DIURETIC**

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1	100%	1.0	80%
	Dose Documented	1	100%	1.0	80%
	Frequency Documented	1	100%	1.0	80%
Drug Indications	Drug prescribed appropriately for: HTN if stepped therapy fails	0	%	0.4	0%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Severe renal impairment, hypercalcemia, hyperuricemia **Risk/benefit:** Angioedema, hyperkalemia, gout, COPD, impaired hepatic function, SLE	1	100%	1.0	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Oral anti-diabetic agents, insulin, long-term high-dose corticosteroid therapy	1	100%	1.0	100%
Drug Monitoring	Overall Monitoring Score	1	75%	1.0	42%
	Old Drugs:				
	BP - q 6 mos, regular	1	100%	0.6	67%
	BP - q. 12 mos, standing	1	0%	0.6	33%
	BUN or creat. - q. 6 mos	1	100%	0.6	67%
	Na+ and K+ - q. 6 mos	1	100%	0.6	67%
	If on lithium - lithium levels q. 3 mos	0	%	0.0	%
	If diabetes - bl. glucose q. 3 mos	0	%	0.2	100%
	If long-term steroids - K+ q. 3 mos	0	%	0.0	%
	If impaired liver function - K+ and Na+ q. 3 mos	0	%	0.0	%

+ The data in this column are based on 5 physicians who treated 3 patients with pre-existing prescriptions and 2 patients with new prescriptions. (cont'd)

Indicator	Criterion	Your Rates: Number of Patients	Your Rates: Percent Acceptable Performance	Peer Group Rates+: Average Number of Patients per Physician	Peer Group Rates+: Average Percent Acceptable Performance
	New Drugs:				
	BP - within 1 mo	0		0.4	50
	BUN or creat. - within 1 mo	0		0.4	0
	Na+ and K+ - within 1 mo	0		0.4	0
	WBC and diff. - within 3 mos	0		0.0	
	If diabetes - bl. glucose within 3 mos	0		0.0	
	If lithium - lithium levels within 3 mos	0		0.0	
	If on long-term steroids - K+ within 3 mos	0		0.0	
	If impaired liver function - Na+ and K+ within 3 mos	0		0.0	

+ The data in this column are based on 5 physicians, who treated 3 with pre-existing prescriptions and 2 patients with new prescriptions.

BLOOD PRESSURE

The table on the opposite page displays the results of the review of those patients with abnormal blood pressure tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 01 **BLOOD PRESSURE - DIASTOLIC BLOOD PRESSURE ≥90**

Indicator	Criterion	Your Rates		Peer Group Rates*	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Drug Monitoring:** Estrogen, ethanol, steroids, thyroxin, non-steroidals, bronchodilators **Conditions:** HTN, cor. artery disease, renal disease, diabetes	4	100%	2.3	94%
Test Urgent Response	Patient referred to hospital or ER for lab values: If patient not known hypertensive, diast. BP >130 If patient hypertensive on treatment, diast. BP >140	0	%	0.0	%
Test Response	Overall score:	3	33%	1.7	49%
	Abnormal test results appropriately followed up:				
	Diast. BP 90-104 at least twice as new finding: Within 1 wk, treat w/no added salt, wt reduction, lower alcohol. If on HTN-prod.med., decr. or disc. Retest within 2 mos.	0	%	0.1	0%
	Diast. BP 105-114 at least twice as new finding: Within 1 wk, treat as above **OR** drug therapy as below. Retest within 1 wk.	0	%	0.0	%
	Diast. BP 115-130 at least twice as new finding: Within 1 day, initiate therapy w/1 or more anti-HTN med. Retest within 2 wks.	0	%	0.0	%
	Diast. BP 90-104 and previously abnormal: Within 1 wk, reaffirm treatment. Add, incr., or subst. meds unless patient not complying w/current. Retest within 3 mos. If not controlled within 6 mos and not on 2-drug therapy, req. consult. **OR** referral.	3	33%	1.5	51%
	Diast. BP >105 and previously abnormal: Within 1 day, add, incr., or subst. meds unless patient not complying with current. Retest within 3 mos. If not controlled within 6 mos and not on 2- or 3-drug therapy, req. consult. OR referral.	0	%	0.0	%
	Diast. BP >105, previously abnormal, and on 3-drug therapy more than 3 mos: Within 1 day, referral or workup. Retest within 3 mos. If not controlled within 3 mos, req. consult. **OR** referral.	0	%	0.0	%

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* The data in this column are based on 15 physicians and 34 patients.

SERUM CREATININE

The table on the opposite page displays the results of the review of those patients with abnormal serum creatinine tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 07 CREATININE - SERUM CREATININE >1.5

Indicator	Criterion	Your Rates		Peer Group Rates*	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: Conditions: Renal disease, HTN, diabetes, CHF, new onset proteinuria or abnorm. urine cell count, ACE inh., nonsteroidal anti-inflamm. drugs, all drugs mainly excreted through kidneys	2	100%	1.6	79%
Test Urgent Response	Patient referred to hospital or ER for lab values: New value creat. >10	0	%	0.1	0%
Test Response	Overall score:	2	100%	1.4	39%
	Abnormal test results appropriately followed up:				
	Not Known Renal Disease:				
	New finding creat. 1.5-2.5: Within 1 mo, if on drugs that affect renal func., decr. or disc. meds. Check urine sediment exam and culture, and retest serum creat. within 3 mos. If still abnorm., req. consult **OR** referral.	2	100%	1.4	39%
	New finding >2.5 and if on drugs that affect renal func.: Within 2 wks decr. or disc. meds. Check urinary sediment exam and culture and check 24-hr urine collection for creat. clearance. Retest creat. within 2 mos.	0	%	0.0	%
	Known Renal Disease:				
	Creat. incr. >50% above that patient's prior baseline: Within 2 wks, if on drugs that affect renal func., decr. or disc. meds. Check urinary sediment exam and culture and creat. clearance. If creat. clearance has fallen, req. consult **OR** referral within 2 mos.	0	%	0.0	%

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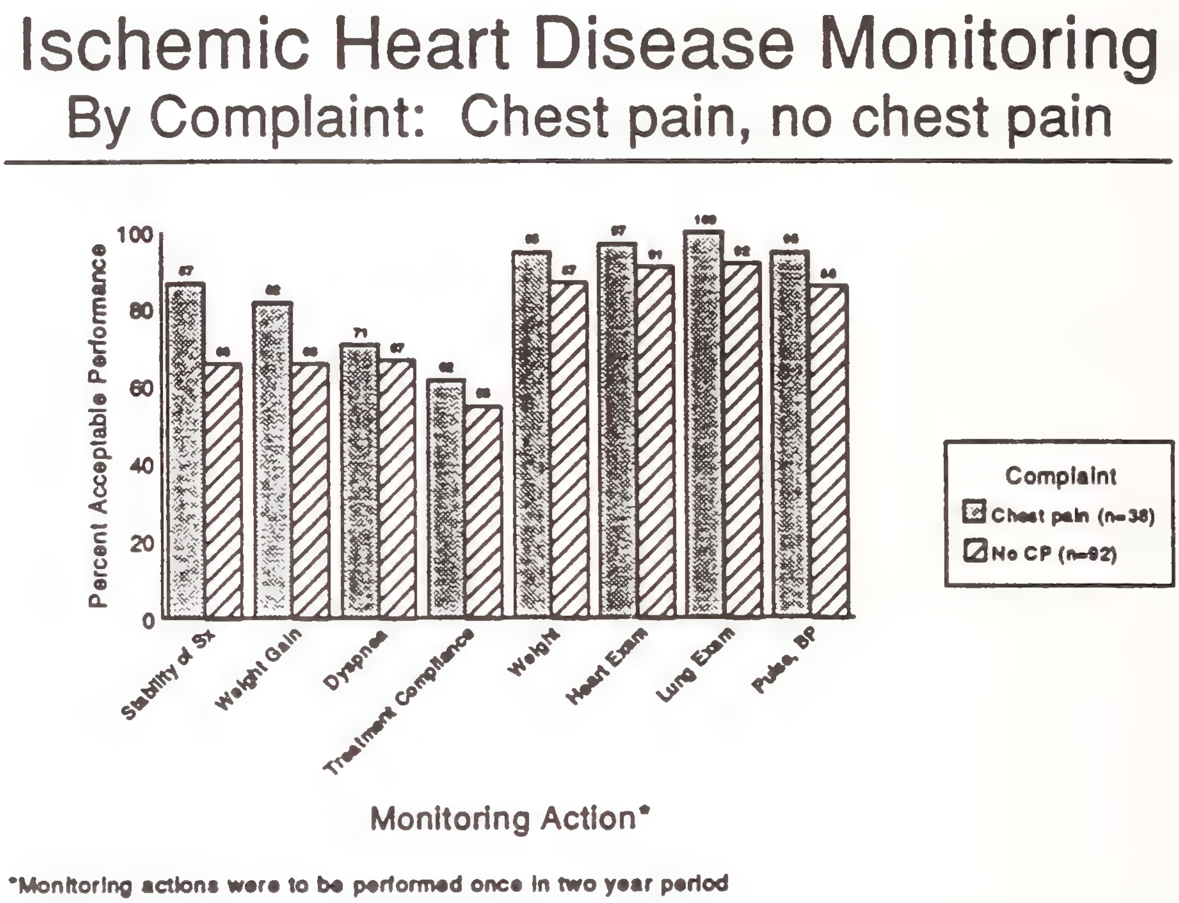
* The data in this column are based on 12 physicians and 19 patients.

ISCHEMIC HEART DISEASE

The table on the opposite page displays the results of the review of your ischemic heart disease patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with ischemic heart disease.



Ischemic Heart Disease Monitoring

By Complaint: Chest pain, no chest pain

*Monitoring actions were to be performed once in two year period

CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

Code: 02 ISCHEMIC HEART DISEASE

Indicator	Criterion	Your Rates		Peer Group Rates*	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	6	91%	4.1	83%
	Stability of symptoms - once	6	83%	4.1	76%
	Weight gain - once	6	100%	3.4	79%
	Dyspnea - once	6	83%	4.1	75%
	Review compliance (diet, drugs, smoking, alcohol, if applicable) - once	5	60%	3.6	64%
	Weight - once	6	100%	4.1	100%
	Heart exam - once	6	100%	4.1	91%
	Lung exam - once	6	100%	4.1	92%
	Pulse, BP - once	6	100%	4.1	89%
Evidence for a New Diagnosis	Cardiac chest pain **OR** exercise tolerance test **OR** positive cardiac catheterization	0	%	0.5	73%
Search for Treatable Causes	HTN **AND** valvular heart disease **AND** anemia **AND** inq. re smoking habits **AND** obesity **AND** serum cholesterol **AND** bl. glucose	0	%	0.5	100%

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* The data in this column are based on 13 physicians who treated 53 patients with pre-existing diagnoses and 7 patients with new diagnoses.

NITRATES

The table on the opposite page displays the results of the review of those patients on nitrates with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the nitrate criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Erythrityl tetranitrate	Cardilate
Isosorbide dinitrate	Dilatrate SR, Iso-Bid, Isonate, Isorbid, Isordil, Isotrate, Sorbitrate
Nitroglycerin (buccal,lingual, oral, sublingual)	Nitro-Bid, Nitrocap, Nitrogard, Nitroglyn, Nitrol, Nitrolin, Nitrolingual, Nitronet, Nitrospan Nitrostat, Tridil
Nitroglycerin (transdermal)	Deponit, Nitrocine, Nitrodisc, Nitro-Dur, NTS, Transderm-Nitro
Pentaerythritol tetranitrate	Duotrate, Naptrate, Pentritil, Pentylan, Peritrate

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 21 **NITRATE**

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1	100%	2.3	89%
	Dose Documented	1	100%	2.3	92%
	Frequency Documented	1	100%	2.3	98%
Drug Indications	Drug prescribed appropriately for: Angina, CHF	0	%	0.5	88%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Orthostatic hypotension	1	100%	2.2	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Transdermal nitrates not to be used continuously for 24 hrs. **Risk/benefit:** None	1	100%	2.2	100%
Drug Monitoring	Overall Monitoring Score	0	%	0.8	50%
	Old Drugs:				
	If CHF - weight and lung exam every 6 mos	0	%	0.3	88%
	New Drugs:				
	If angina - educate patient re possible exacerbation.	0	%	0.5	14%
	If CHF - weight and lung exam within 1 mo start of therapy	0	%	0.2	100%

+ The data in this column are based on 15 physicians who treated 26 patients with pre-existing prescriptions and 8 patients with new prescriptions.

CHOLESTEROL

The table on the opposite page displays the results of the review of those patients with abnormal cholesterol tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 03 CHOLESTEROL - TOTAL CHOLESTEROL >240

Indicator	Criterion	Your Rates		Peer Group Rates*	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions:** Once q. 2 yrs - Family hypercholesterolemia, IHD, HTN, diuretics (incr.LDL), B-blockers (decr.HDL), diabetes	2	100%	2.4	82%
Test Urgent Response	NA				
Test Response	Overall score:	1	0%	1.6	37%
	Abnormal test results appropriately followed up:				
	Total cholesterol >240 and new abnorm: Within 3 mos retest, and if still ≥240, begin diet advice. Retest within 6 mos.	1	0%	0.6	38%
	Total cholesterol >240 and old abnorm: Within 3 mos check fasting HDL, total chol. and triglycerides, bl. glu., and thyroid func. Retest within 4 mos. If ≤75 yrs and if value remains high, check diet.	0	%	0.9	38%

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* The data in this column are based on 16 physicians and 39 patients.

ECG

The table on the opposite page displays the results of the review of those patients with abnormal ECG tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 10 **ECG**

Indicator	Criterion	Your Rates: Number of Patients	Your Rates: Percent Acceptable Performance	Peer Group Rates*: Average Number of Patients per Physician	Peer Group Rates*: Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions:** Not routine except with DM, HTN, CHF, cor. artery disease, intrinsic renal disease, valv. heart disease, arrhythmias, metabolic derangements, HTN, DM, PVD, preop eval., tricyclic antidepressants, CHF.	4	100%	5.0	90%
Test Urgent Response	Patient referred to hospital or ER for lab values: On ECG, new findings of acute ischemic changes, 2nd or 3rd deg. heart block, severe metabolic derangements, multifocal ventricular premature beats, or ventricular tachycardia.	0	%	0.4	100%
Test Response	Overall score:	0	%	0.2	50%
	Abnormal test results appropriately followed up:				
	If new onset rhythm dist.: Within 1 wk, if on drugs that affect rhythm or serum pot., then decr. or remove. Do Holter monitor or note why not needed. If Holter conf. abnorm., start treatment or req. consult or refer to cardiology within 1 wk.	0	%	0.1	0%
	If new atrial fib.: Within 1 day, if on drugs that affect rhythm or serum pot., decr. or remove. Check thyroid, heart, temperature, and lung exam. If fib. persists more than 2 days, start anticoagulants and document decision re attempt to convert to normal sinus rhythm or req. consult or referral.	0	%	0.2	50%
	If new metabolic changes on ECG: Within 2 days check serum pot. or serum calcium. If on meds that affect serum pot. and serum calcium, decr. or disc. Treat and retest in 1 wk.	0	%	0.0	%

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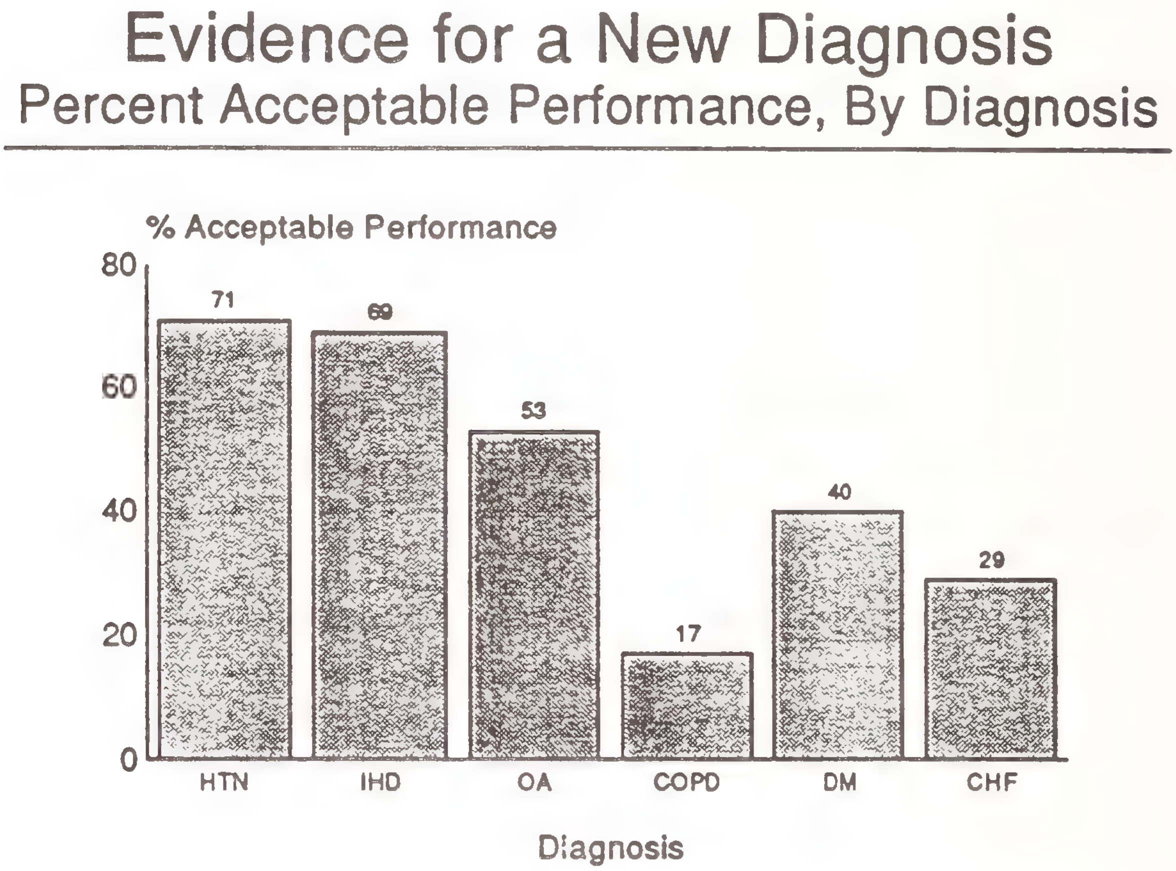
* The data in this column are based on 13 physicians and 65 patients.

CONGESTIVE HEART FAILURE

The table on the opposite page displays the results of the review of your congestive heart failure patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with congestive heart failure.



CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 06 **CONGESTIVE HEART FAILURE**

Indicator	Criterion	Your Rates		Peer Group Rates*	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	4	100%	2.1	90%
	Chest pain - once	4	100%	2.1	83%
	Dyspnea, decr. tolerance of exertion - once	4	100%	2.1	72%
	Document drug treatment - once	4	100%	2.1	94%
	Weight (or history of weight gain) - once	4	100%	2.1	100%
	Pulse, BP - once	4	100%	2.1	92%
	Heart exam - once	4	100%	2.1	94%
	Peripheral edema	4	100%	2.1	83%
	Lung exam	4	100%	2.1	100%
Evidence for a New Diagnosis	S3, pulm. rales, raised JVP and/or pedal edema, enlarged heart OR left ventricular ejection fraction <40% OR signs of CHF on chest x-ray	0	%	0.6	25%
Search for Treatable Causes	HTN AND valvular heart disease AND AMI AND drug role AND anemia AND statement re thyroid disease	0	%	0.6	100%

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* The data in this column are based on 9 physicians who treated 19 patients with pre-existing diagnoses and 5 patients with new diagnoses.

LOOP DIURETIC

The table on the opposite page displays the results of the review of those patients on loop diuretics, with comparisons to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the loop diuretic criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Bumetanide	Bumex
Ethacrynic Acid	Edecrin
Furosemide	Lasix

CLINICAL ITEM REPORT - Drugs

Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine
CODE: 08

DIURETIC - LOOP

		Your Rates		Peer Group Rates+	
Indicator	Criterion	Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	8	100%	3.4	78%
	Dose Documented	8	100%	3.4	81%
	Frequency Documented	8	100%	3.4	81%
Drug Indications	Drug prescribed appropriately for: Edema/pulm. edema, HTN, hypercalcemia	1	100%	0.7	94%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Risk/benefit:** BUN >50 or creat. >2.5	8	100%	3.4	97%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Lithium **Risk/benefit:** Long-term, high-dose corticosteroid	8	100%	3.4	99%
Drug Monitoring	Overall Monitoring Score	8	74%	3.1	50%
	Old Drugs:				
	BUN or creat. - q. 6 mos	7	57%	2.4	49%
	K+ q. - 6 mos	7	71%	2.4	51%
	Na+ q. - 6 mos	7	71%	2.4	48%
	If diabetes - bl. glucose q. 3 mos	3	67%	0.5	28%
	If on lithium - lithium levels q. 3 mos	0	%	0.0	%
	New Drugs:				
	BUN or creat. - within 1 mo start of therapy	1	100%	0.7	50%
	Na+ - within 1 mo start of therapy	1	100%	0.7	50%
	K+ - within 1 mo start of therapy	1	100%	0.7	56%
	If diabetes -bl.glu.within 3 mos start therapy	0	%	0.1	0%
	If on lithium - lithium levels within 3 mos start of therapy	0	%	0.0	%

+ The data in this column are based on 17 physicians who treated 46 patients with pre-existing prescriptions and 12 patients with new prescriptions.

THIAZIDE DIURETICS

The table on the opposite page displays the results of the review of those patients on thiazide diuretics with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the thiazide diuretic criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Bendroflumethiazide	Naturetin
Benzthiazide	Exna, Hydrex
Chlorothiazide	Diuril
Chlorthalidone	Hygroton, Thalitone
Cyclothiazide	Anhydron, Fluidil
Hydrochlorothiazide	Esidrix, Hydrodiuril, Oretic
Hydroflumethiazide	Diucardin, Saluron
Indapamide	Lozol
Methyclothiazide	Aquatensen, Enduron
Methyclothiazide+Enduronyl	Eduronyl
Metolazone	Diulo, Zaroxolyn
Polythiazide	Renese
Quinethazone	Hydromox
Trichlormethiazide	Metahydrin, Naqua

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 10 **DIURETIC - THIAZIDE-TYPE**

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2	100%	2.7	82%
	Dose Documented	2	100%	2.7	82%
	Frequency Documented	2	100%	2.7	88%
Drug Indications	Drug prescribed appropriately for: Edema/pulm. edema, HTN, diabetes insipidus, renal calculi	2	100%	0.4	100%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Renal imp. (BUN>50 or creat.>2.5), hypercalcemia (cal.>12). **Risk/benefit:** Gout, impaired hepatic function, systemic lupus erythematosus	2	50%	2.7	89%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Oral antidiab. agents, insulin, long-term high-dose corticosteroid therapy	2	100%	2.7	88%
Drug Monitoring	Overall Monitoring Score	2	0%	2.6	25%
	Old Drugs:				
	BUN or creat. - q. 6 mos	0	%	2.2	21%
	Na+ - q. 6 mos	0	%	2.2	26%
	K+ - q. 6 mos	0	%	2.2	26%
	If impaired liver function - K+ q. 3 mos	0	%	0.0	%
	If on lithium - lithium levels q. 3 mos	0	%	0.0	%
	If diabetes - bl. glucose q. 3 mos	0	%	0.5	33%
	If on long-term corticosteroid - K+ q.3 mos	0	%	0.1	0%

(cont'd)

+ The data in this column are based on 14 physicians who treated 33 patients with pre-existing prescriptions and 5 patients with new prescriptions.

CLINICAL ITEM REPORT - DRUGS
CODE: 10

DIURETIC - THIAZIDE-TYPE

		Your Rates		Peer Group Rates+	
Indicator	Criterion	Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
	New Drugs:				
	BUN or creat. - within 1 mo start of therapy	2	0%	0.4	50%
	Na+ - within 1 mo	2	0%	0.4	33%
	K+ - within 1 mo	2	0%	0.4	50%
	If diabetes - bl. glucose within 3 mos start of therapy	0	%	0.0	%
	If on lithium - lithium levels within 3 mos of therapy	0	%	0.0	%
	If on long-term corticosteroid - serum pot. within 3 mos start of therapy	0	%	0.0	%
	If impaired liver function - K+ and Na+ within 3 mos start of therapy	0	%	0.0	%

+ The data in this column are based on 14 physicians who treated 33 patients with pre-existing prescriptions and 5 patients with new prescriptions.

THIAZIDE DIURETIC + POTASSIUM SPARING DIURETIC

The table on the opposite page displays the results of the review of those patients on combination diuretic therapy with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Hydrochlorothiazide+Amiloride	Moduretic
Hydrochlorothiazide+Spironolactone	Aldactazide
Hydrochlorothiazide+Triamterene	Dyazide, Maxizide

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 18 **COMBINATION: DIURETIC (THIAZIDE-TYPE) + POTASSIUM-SPARING-TYPE**

		Your Rates		Peer Group Rates+	
Indicator	**Criterion**	**Number of Patients**	**Percent Acceptable Performance**	**Average Number of Patients per Physician**	**Average Percent Acceptable Performance**
Dose and Frequency	Both dose and frequency documented		%	2.5	88%
	Dose Documented		%	2.5	88%
	Frequency Documented		%	2.5	88%
Drug Indications	Drug prescribed appropriately for: Edema/pulm. edema, HTN, diabetes insipidus, renal calculi, CHF		%	0.3	100%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Renal impairment (BUN >50 or creat. >2.5) **Risk/benefit:** Hypercalcemia, hyperkalemia, gout, impaired hepatic function, systemic lupus erythematosus		%	2.5	94%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Oral potassium supp., ACE inhibitors **Risk/benefit:** Oral anti-diabetic agents, insulin, long-term high-dose corticosteroid therapy		%	2.5	61%
Drug Monitoring	Overall Monitoring Score		%	2.1	47%
	Old Drugs:				
	BP - q. 6 mos, regular		%	1.9	72%
	BP - q. 12 mos, standing		%	1.9	27%
	BUN or creat. - q. 6 mos		%	1.9	38%
	K+ and Na+ - q. 6 mos		%	1.9	46%
	If on lithium - lithium levels q. 3 mos		%	0.0	%
	If diabetes - bl. glucose q. 3 mos		%	0.3	17%

(cont'd)

+ The data in this column are based on 14 physicians, who treated 31 patients with pre-existing prescriptions and 4 patients with new prescriptions.

CLINICAL ITEM REPORT - DRUGS
CODE: 18 COMBINATION: DIURETIC (THIAZIDE-TYPE) + POTASSIUM-SPARING TYPE

Indicator	Criterion	Your Rates		Peer Group Rates	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
	If on steroids - K+ q 3 mos		%	0.1	0%
	If impaired liver function - K+ and Na+ q 3 mos		%	0.0	%
	New Drugs:				
	BP - within 1 mo start of therapy		%	0.3	50%
	BUN or creat - within 1 mo start of therapy		%	0.3	33%
	K+ - within 1 mo		%	0.3	50%
	Na+ - within 1 mo		%	0.3	33%
	If diabetes - bl. glucose within 3 mos start of therapy		%	0.1	100%
	If on corticosteroids - K+ within 3 mos start of therapy		%	0.0	%
	If on lithium - lithium levels within 3 mos start of therapy		%	0.0	%
	If impaired liver function - K+ and Na+ within 3 mos start of therapy		%	0.1	0%

+ The data in this column are based on 14 physicians, who treated 31 patients with pre-existing prescriptions and 4 patients with new prescriptions.

POTASSIUM

The table on the opposite page displays the results of the review of those patients with abnormal potassium tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 04 POTASSIUM (SERUM LEVEL) K+ <3 OR K+ >5.7

Indicator	Criterion	Your Rates		Peer Group Rates*	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions:** Diuretic therapy, digoxin therapy, pot. therapy, heart disease, renal disease, hyperaldosteronism, DM, ACE inh. therapy, corticosteroid therapy, dizziness, muscle cramps, myalgias, polyuria, ECG changes suggestive of hyperkalemia, chron. fatigue	1	100%	1.0	100%
Test Urgent Response	Patient referred to hospital or ER for lab values: If serum pot. >6.0 and ECG changes, if <2.5 and ECG changes	0	%	0.0	%
Test Response	Overall score:	1	0%	1.0	67%
	Abnormal test results appropriately followed up:				
	Serum pot. <3.0 on diuretics (except pot.-sparing) or on long-term, high-dose corticosteroids: Within 1 wk decr. or disc. hypokalemia-inducing drugs OR add oral pot. repl. therapy, AND/OR change to pot.-sparing diuretics. Retest within 1 mo.	1	0%	0.7	50%
	Serum pot. <3.0 not on diuretics or hypokalemia-inducing drugs: Within 1 wk check history of chron. diarrhea, enema use, laxative abuse, chron. alcohol. Check serum electrolytes, urine pot., and chloride. Review results within 1 wk.	0	%	0.0	%
	Serum pot. 5.7-6.0 on ACE inh., NSAIDs, pot.-sparing diuretics, or pot. supplement therapy: Within 2 days decr. or disc. drugs if appropriate. Retest within 2 wks.	0	%	0.3	100%
	Serum pot. 5.7-6.0 not on ACE inh., NSAIDs, pot.-sparing diuretics, or pot. supplement therapy: Within 1 wk repeat serum electrolytes and BUN/creat. Review results within 1 wk.	0	%	0.0	0.0%

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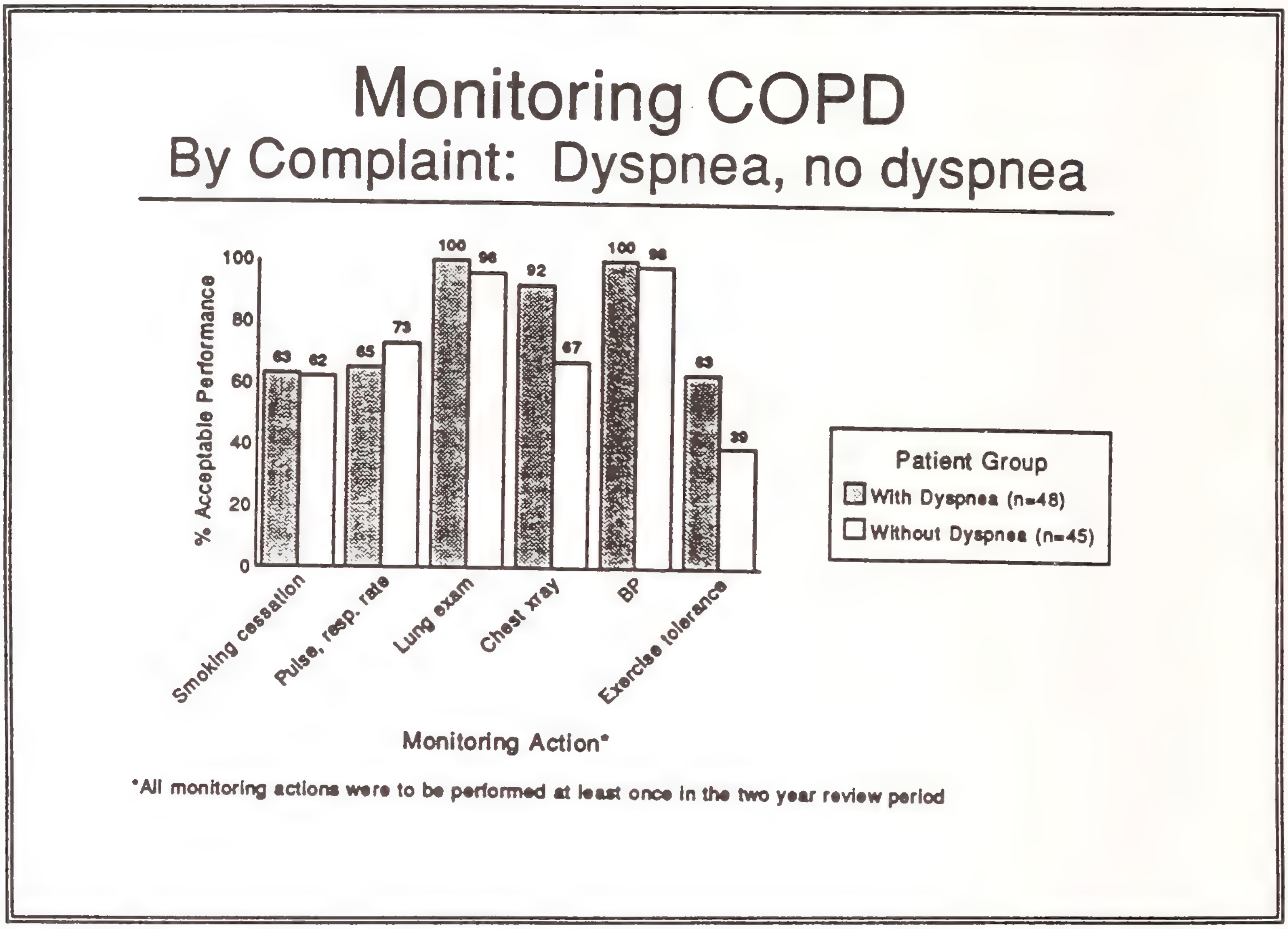
* The data in this column are based on 3 physicians and 3patients.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

The table on the opposite page displays the results of the review of your COPD patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with chronic obstructive pulmonary disease.



Monitoring COPD

By Complaint: Dyspnea, no dyspnea

*All monitoring actions were to be performed at least once in the two year review period

CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 04 CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Indicator	Criterion	Your Rates		Peer Group Rates*	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	3	64%	2.0	80%
	Check for compliance with smoking cessation (if patient is a smoker) - once	1	0%	1.1	77%
	Pulse, respiratory rate - once	3	100%	2.0	68%
	Lung exam - once	3	67%	2.0	95%
	Chest x-ray - once	3	67%	2.0	77%
	BP - once	3	100%	2.0	98%
	Tolerance of exertion - once	3	0%	2.0	58%
Evidence for a New Diagnosis	Productive cough lasting 3 mos for 2 consecutive yrs **AND** dyspnea on exertion with or w/o wheezing **OR** decr. forced expiratory volume (1 second)	1	0%	0.4	20%
Search for Treatable Causes	Smoking or environmental precipitant	1	100%	0.4	40%

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* The data in this column are based on 14 physicians who treated 28 patients with pre-existing diagonoses and 6 patients with new diagnoses.

INHALED BETA-ADRENERGIC AGONIST

The table on the opposite page displays the results of the review of those patients using beta-adrenergic agonist inhalers, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Albuterol	Proventil, Ventolin
Bitolterol	Tornalate
Epinephrine	Bronkaid Mist, Primatene Mist
Ethylnorepinephrine	Bronkephrine
Isoetharine	Bronkosol, Bronkometer
Isoproterenol	Aerolone, Isuprel
Isoproterenol+Phenylephrine	Duo-Medihaler
Metaproterenol	Alupent, Metaprel
Pirbuterol	Maxair
Racepinephrine	Asthma Nephrin
Terbutaline	Brethaire, Brethine, Bricanyl

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 51 BETA-ADRENERGIC AGONIST (ADRENERGIC BRONCHODILATOR) - INHALED

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2	100%	1.6	68%
	Dose Documented	2	100%	1.6	68%
	Frequency Documented	2	100%	1.6	73%
Drug Indications	Drug prescribed appropriately for: Bronch. asthma, bronchiectasis, chron. bronch., and emphysema	1	0%	0.3	33%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Coronary artery disease, HTN, hyperthyroidism, cerebral insufficiency, chron. lung disease **Risk/benefit:** Patients >70 yrs	2	100%	1.6	95%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Monoamine oxidase inh., guanethidine **Risk/benefit:** Beta-adrenergic blockers	2	100%	1.6	100%
Drug Monitoring	Overall Monitoring Score	1	100%	1.5	77%
	Old Drugs:				
	Lung exam - q. 6 mos	1	100%	1.3	85%
	New Drugs:				
	Lung exam - within 1 mo start of therapy	0	%	0.2	50%

+ The data in this column are based on 10 physicians who treated 13 patients with pre-existing prescriptions and 3 patients with new prescriptions.

CHOLINERGIC INHIBITOR

The table on the opposite page displays the results of the review of those patients taking a cholinergic inhibitor, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Ipratropium	Atrovent

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 52 CHOLINERGIC INHIBITOR (INHALATION-LOCAL)

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	3	100%	2.0	100%
	Dose Documented	3	100%	2.0	100%
	Frequency Documented	3	100%	2.0	100%
Drug Indications	Drug prescribed appropriately for: Emphysema, COPD, bronch. asthma only if beta-adrenergics and xanthines fail	1	100%	0.5	100%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Glaucoma, urinary retention	3	100%	2.0	100%
Drug Contraindications	NA				
Drug Monitoring	NA				

+ The data in this column are based on 2 physicians who treated 3 patients with pre-existing prescriptions and 1 patients with new prescriptions.

ORAL XANTHINE DERIVATIVE

The table on the opposite page displays the results of the review of those patients on an oral xanthine derivative with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Aminophylline	Somophyllin
Dyphylline	Dilor, Dyflex, Lufyllin
Oxtriphylline	Choledyl
Theophylline	Aerolate, Bronkodyl, Duraphyl, Elixophyllin, Quibro, Slo-Phyllin,Somophyllin-T, Sustaire, Theo-24, Theobid, Theochron Theo-Dur, Theolair, Uniphyl
Theophylline+Guaifenesin	Asbron G, Eliophyllin-GG, Quibron, Slo-Phyllin GG, Theolair-Plus, Theolate

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 53

XANTHINE-DERIVATIVE - ORAL

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	2	100%	1.7	71%
	Dose Documented	2	100%	1.7	71%
	Frequency Documented	2	100%	1.7	71%
Drug Indications	Drug prescribed appropriately for: Bronch. asthma, pulm. emphysema, chron. bronchitis	0	%	0.2	50%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Gastritis or peptic ulcer, CHF, liver disease, prostatic hypertrophy, alcoholism	2	100%	1.7	75%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** On other xanthine derivative **Risk/benefit:** Cimetidine, erythromycin, beta blockers, furosemide, propanolol	2	50%	1.7	68%
Drug Monitoring	Overall Monitoring Score	2	50%	1.6	33%
	Old Drugs:				
	Serum theophylline - q. 3 mos	2	50%	1.5	33%
	New Drugs:				
	Serum theophylline - within 1 wk start of therapy	0	%	0.1	0%

+ The data in this column are based on 12 physicians who treated 18 patients with pre-existing prescriptions and 2 patients with new prescriptions.

ORAL BETA-ADRENERGIC AGONIST

The table on the opposite page displays the results of the review of those patients taking an oral beta-adrenergic agonist, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Albuterol	Proventil, Ventolin
Ephedrine	Vantronol
Isoproterenol (sublingual)	Aerolone, Isuprel
Metaproterenol	Alupent, Metaprel
Terbutaline	Brethaire, Brethine, Bricanyl

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 55 **BETA-ADRENERGIC AGONIST (ORAL)**

		Your Rates		Peer Group Rates+	
Indicator	Criterion	Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented		%	1.5	100%
	Dose Documented		%	1.5	100%
	Frequency Documented		%	1.5	100%
Drug Indications	Drug prescribed appropriately for: Bronch. asthma in patients who cannot use metered inhaler correctly, bronchiectasis, ephedrine not in patients >65, isoproterenol sublingual not in patients >65		%	0.8	0%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** CAD, HTN, hyperthyroidism, angina, arrhythmia		%	1.5	50%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** MAOs, ephedrine, guanethidine-ephedrine **Risk/benefit:** Beta-adrenergic blockers		%	1.5	88%
Drug Monitoring	Overall Monitoring Score		%	1.5	21%
	Old Drugs:				
	Lung exam - q. 6 mos		%	0.8	33%
	Pulse - q. 6 mos		%	0.8	33%
	BP - q. 6 mos, alternating standing and regular		%	0.8	33%

(cont'd)

+ The data in this column are based on 4 physicians who treated 3 patients with pre-existing prescriptions and 3 patients with new prescriptions.

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
	New Drugs:				
	Lung exam - within 1 mo		%	0.8	33%
	Pulse - within 1 mo		%	0.8	0%
	BP - within 1 mo		%	0.8	33%

+ The data in this column are based on 4 physicians who treated 3 patients with pre-existing prescriptions and 3 patients with new prescriptions.

CEPHALOSPORIN

The table on the opposite page displays the results of the review of those patients taking a cephalosporin, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
First Generation:	
Cefadroxil	Duricef, Ultracef
Cephalexin	Keflex
Cephadrine	Anspor, Velosef
Second Generation:	
Cefaclor	Ceclor
Cefuroxime	Ceftin
Third Generation:	
Cefixime	Suprax

CLINICAL ITEM REPORT - Drugs

Review Period: July 1, 1989 - June 30, 1991

ID Number:-
Peer Group: Internal Medicine

CODE: 61 **CEPHALOSPORIN**

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented		%	3.6	82%
	Dose Documented		%	3.6	85%
	Frequency Documented		%	3.6	85%
Drug Indications	Drug prescribed appropriately for: ***First Generation:** Lower resp. tract infec., urinary tract infec., skin/soft tissue infec., bone infec. **Second Generation:** *Lower resp. tract infec. *Urinary tract infec. *Skin/soft tissue infec. *Bone infec. Otitis media, urinary tract infec., gonorrhea-cefuroxime **Third Generation:** Urinary tract infec.		%	2.8	32%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Previous allergic reaction to cephalosporin **Risk/benefit:** Colitis, penicillin allergy, BUN >50 or creat. >2.5.		%	3.6	90%
Drug Contraindications	NA				
Drug Monitoring	NA				

* Only if organism resistant or unresponsive to other anti-infectives or patient allergic to penicillins or sulfonamides or trimethoprim-sulfamethoxazole.

+ The data in this column are based on 12 physicians who treated 10 patients with pre-existing prescriptions and 33 patients with new prescriptions.

ERYTHROMYCIN

The table on the opposite page displays the results of the review of those patients on erythromycin with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Erythromycin	Eryc, E-Mycin, Ilotycin
Erythromycin Estolate	Ilosone
Erythromycin Ethylsuccinate	EryPed, Pediamycin, Wyamycin E, EES
Erythromycin Stearate	Erythrocin, Erypar, Wyamycin S

CLINICAL ITEM REPORT - Drug
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 62 **ERYTHROMYCIN**

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1	100%	1.5	65%
	Dose Documented	1	100%	1.5	65%
	Frequency Documented	1	100%	1.5	69%
Drug Indications	Drug prescribed appropriately for: Campylobacter infec., pertussis treatment or prophylaxis **If allergic to penicillin:** Strep. pneumonia, strep. tonsillitis, community-acquired bronch., prophylaxis for dental procedures, otitis media, skin/soft tissue infec.	1	0%	1.3	21%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Allergy to erythromycin **Risk/benefit:** Hepatic impairment	1	100%	1.5	100%
Drug Contraindications	NA				
Drug Monitoring	Overall Monitoring Score	0	%	0.0	%
	Old Drugs:				
	If treatment >2 wks and on anticoagulants - prothrombin time q. 1 mo	0	%	0.0	%
	New Drugs:				
	If treatment prolonged >2 wks and if on carbamazepine or phenytoin - serum drug levels of these 2 drugs within 1 mo start of therapy	0	%	0.0	%
	If treatment prolonged >2 wks and if on anticoagulants - prothrombin time within 1 wk start of therapy	0	%	0.0	%
	If treatment prolonged >2 wks and if on theophylline - levels within 1 mo start of therapy	0	%	0.0	%

+ The data in this column are based on 13 physicians who treated 2 patients with pre-existing prescriptions and 17 patients with new prescriptions.

TETRACYCLINE

The table on the opposite page displays the results of the review of those patients taking tetracycline, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Demeclocycline	Declomycin
Doxycycline	Doryx, Vibramycin
Methacycline	Rondomycin
Minocycline	Minocin
Oxytetracycline	Terramycin
Tetracycline	Achromycin, Panmycin, Sumycin, Tetracyn

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 64 **TETRACYCLINE**

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	4	100%	1.8	79%
	Dose Documented	4	100%	1.8	83%
	Frequency Documented	4	100%	1.8	79%
Drug Indications	Drug prescribed appropriately for: Acute/chron. bronchitis, pneumonia, pelvic inflamm. disease, urinary tract infec., chron. prostatitis, Lyme disease, chlamydia, epididymo-orchitis	2	0%	1.2	30%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** BUN >50 or creat. >2.5 **Risk/benefit:** None	4	100%	1.8	100%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Anticoagulants	4	100%	1.7	92%
Drug Monitoring	Overall Monitoring Score	0	%	0.0	%
	Old Drugs:				
	NA				
	New Drugs:				
	If minocycline, warn re vestibular effect	0	%	0.0	%

+ The data in this column are based on 12 physicians who treated 7 patients with pre-existing prescriptions and 14 patients with new prescriptions.

AMINOPENICILLINS

The table on the opposite page displays the results of the review of those patients taking an aminopenicllin, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Amoxicillin	Amoxil, Polymox, Trimox, Wymox
Amoxicillin+Clavulanate	Augmentin
Ampicillin	Amcill, Omnipen, Polycillin, Principen, Totacillin
Ampicillin+Sulbactam	Unasyn
Bacampicillin	Spectrobid
Cyclacillin	Cyclapen-W

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 65 **AMINOPENICILLINS**

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	3	67%	2.3	75%
	Dose Documented	3	67%	2.3	79%
	Frequency Documented	3	67%	2.3	75%
Drug Indications	Drug prescribed appropriately for: Otitis media, sinusitis, shigella gastroenteritis, urinary tract infec., acute prostatitis, pelvic inflamm. disease, acute epididymo-orchitis, urethral gonorrhea, pneumonia	2	50%	1.7	41%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Allergy to penicillin	3	100%	2.3	99%
Drug Contraindications	NA				
Drug Monitoring	NA				

+ The data in this column are based on 16 physicians who treated 9 patients with pre-existing prescriptions and 27 patients with new prescriptions.

PENICILLINASE-RESISTANT PENICILLIN

The table on the opposite page displays the results of the review of those patients on a penicillinase-resistant penicillin, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	Trade
Cloxacillin	Cloxapen, Tegopen
Dicloxacillin	Dynapen, Pathocil, Dycill
Oxacillin	Bactocill, Prostaphlin

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number: -
Peer Group: Internal Medicine

CODE: 66 PENICILLINASE-RESISTANT PENICILLINS

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented		%	1.5	100%
	Dose Documented		%	1.5	100%
	Frequency Documented		%	1.5	100%
Drug Indications	Drug prescribed appropriately for: Infections of skin and soft tissue, mild infections of joints, respiratory and genitourinary tract infections where penicillin-resistant strains have been cultured or are suspected		%	0.3	0%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Allergy to penicillin		%	1.5	100%
Drug Contraindications	NA				
Drug Monitoring	NA				

+ The data in this column are based on 4 physicians who treated 0 patients with pre-existing prescriptions and 6 patients with new prescriptions.

SULFONAMIDE + TRIMETHOPRIM

The table on the opposite page displays the results of the review of those patients on bactrim, with comparison to your specialty. The five drug indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

Drugs within this class

Generic	**Trade**
Sulfamethoxazole+Trimethoprim	Bactrim, Cotrim, Septra

CLINICAL ITEM REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 72 **SULFONAMIDE + TRIMETHOPRIM**

Indicator	Criterion	Your Rates		Peer Group Rates+	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Dose and Frequency	Both dose and frequency documented	1	0%	1.5	83%
	Dose Documented	1	0%	1.5	92%
	Frequency Documented	1	0%	1.5	83%
Drug Indications	Drug prescribed appropriately for: Lower urinary tract infec., pyelonephritis, prophylaxis of urinary infec., sinusitis, chron. bronchitis, chron. prostatitis, shigellosis, otitis media, traveler's diarrhea, salmonellosis	1	100%	1.3	52%
Condition Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** Sulfonamides allergy, G6PD deficiency **Risk/benefit:** Blood dyscrasias or megaloblastic anemia, hepatic impairment, renal impairment	1	0%	1.5	83%
Drug Contraindications	No contraindications or use of drug justified despite contraindications: **Absolute:** None **Risk/benefit:** Oral antidiabetics, anticoagulants, phenytoin, methotrexate, thiazides	1	100%	1.5	64%
Drug Monitoring	Overall Monitoring Score	0	%	0.1	33%
	Old Drugs:				
	If long-term, high-dose therapy:				
	CBC - q. 1 mo	0	%	0.0	%
	UA - crystals q. 6 mos	0	%	0.0	%
	BUN or creat. q. 6 mos	0	%	0.0	%
	If anticoagulants - prothrombin time q. 1 mo	0		0.0	%

(cont'd)

+ The data in this column are based on 12 physicians who treated 3 patients with pre-existing prescriptions and 15 patients with new prescriptions.

Indicator	Criterion	Your Rates Number of Patients	Your Rates Percent Acceptable Performance	Peer Group Rates+ Average Number of Patients per Physician	Peer Group Rates+ Average Percent Acceptable Performance
	New Drugs:				
	If >1 mo: CBC - within 1 mo start of therapy	0	%	0.1	0%
	UA - crystals within 6 mos start of therapy	0	%	0.1	0%
	BUN or creat - within 6 mos start of therapy	0	%	0.1	100%
	If anticoagulants - PT within 1 wk start of therapy	0	%	0.0	%
	If dilantin - levels within 1 mo start of therapy	0	%	0.0	%

+ The data in this column are based on 12 physicians who treated 3 patients with pre-existing prescriptions and 15 patients with new prescriptions.

CHEST XRAY

The table on the opposite page displays the results of the review of those patients with abnormal chest xray tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 12 **X-RAY: CHEST**

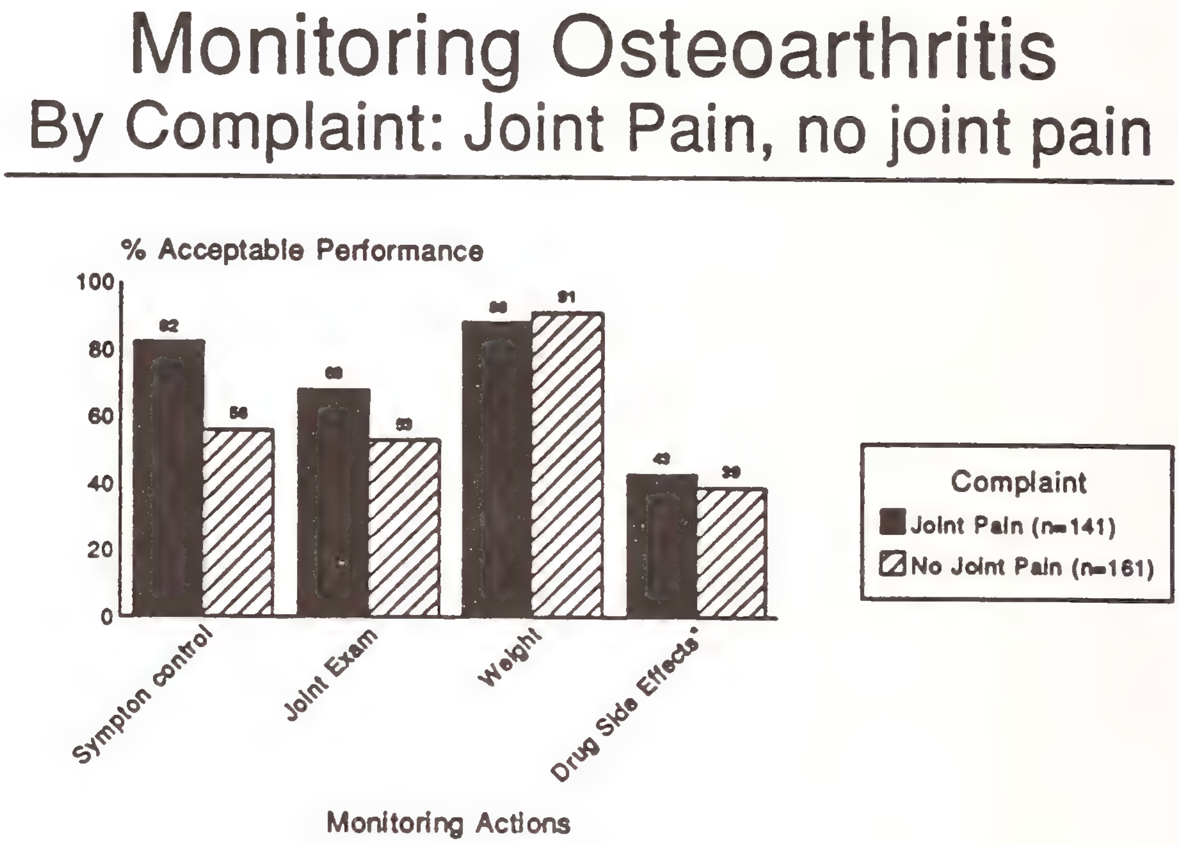
		Your Rates		Peer Group Rates*	
Indicator	**Criterion**	**Number of Patients**	**Percent Acceptable Performance**	**Average Number of Patients per Physician**	**Average Percent Acceptable Performance**
Test Indications	Tests ordered appropriately for: **Conditions: Annually in chronic smoker:** Known or suspected heart disease, chest disease, or esophageal disease; heartburn/acid reflux; chest or shoulder pain; cough, fever, lung signs; cough and wt loss in smoker; preop chest x-ray; chest trauma, suspected rib fracture; known TB or positive PPD.	2	100%	2.7	98%
Test Urgent Response	Patient referred to hospital or ER for lab values: Significant evidence of CHF OR pulm. edema OR pneumothorax impairing resp. or cardiac func. OR severe pneum. with incapacitating symptoms OR pneum. in debilitated patient OR pneum. in patient unable to care for self AND without caregiver.	0	%	0.0	%
Test Response	Overall score:	0	%	0.8	71%
	Abnormal test results appropriately followed up:				
	Pneumonia: Within 1 day treat with antibiotics and review within 1 wk. If symptoms persist, repeat x-ray and get PPD within 1 mo.	0	%	0.4	60%
	CHF: Within 1 wk review salt intake. Start or adjust diur. therapy. Re-exam within 1 wk. If symptoms persist, augment treatment OR req. consult OR referral.	0	%	0.2	100%
	Lung mass: Within 2 wks, chest CT scan and biopsy or referral to pulm./thoracic surgeon.	0	%	0.1	0%
	Lung infiltrate: Within 1 day treat with antibiotics for >1 wk, then repeat x-ray and get PPD after therapy if symptoms persist.	0	%	0.2	100%
	Pneumothorax, small newly discovered: Within 1 day treat symptomatically, repeat x-ray within 24 hrs and if increase in size, immediate referral or hospitalization.	0	%	0.0	%

* The data in this column are based on 13 physicians and 35 patients.

OSTEOARTHRITIS

The table on the opposite page displays the results of the review of your osteoarthritis patients' charts with comparisons to your specialty. The three diagnosis indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

The figure below shows statewide data for patients with osteoarthritis.



* Patients were monitored for side effects of medication if they were on medication

CLINICAL ITEM REPORT - Diagnosis
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE 03: **OSTEOARTHRITIS**

Indicator	Criterion	Your Rates		Peer Group Rates*	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Old Diagnosis Monitoring	Overall Score	4	88%	7.0	70%
	Control of symptoms - once	4	100%	6.8	66%
	Exam of joints most affected - once	4	100%	6.9	69%
	Weight - once	4	100%	7.0	95%
	Side effects of meds - once	4	50%	5.5	47%
Evidence for a New Diagnosis	Symptoms lasting longer than 1 mo that are suggestive of osteoarthritis **OR** positive x-ray findings of osteoarthritis	2	100%	1.3	40%
Search for Treatable Causes	Obesity (weight and height)	2	50%	1.3	40%

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* The data in this column are based on 17 physicians who treated 119 patients with pre-existing diagnoses and 22 patients with new diagnoses.

HEMOGLOBIN/HEMATOCRIT

The table on the opposite page displays the results of the review of those patients with abnormal hgb/hct tests, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

Code: 02 **Hemoglobin/Hematocrit - Hgb >18 or Hgb <10**

		Your Rates		Peer Group Rates*	
Indicator	Criterion	Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions:** Anemia, blood loss, CAD, HTN, chron. renal failure, polycythemia, melena/stool-positive occult blood, fatigue/dizziness/conf., decr. tolerance for exertion or shortness of breath, infec. symptoms, aspirin use, NSAID use, gastrointestinal dis., concern re nutrition, self-care	1	100%	1.1	100%
Test Urgent Response	Patient referred to hospital or ER for lab values: If new finding of hemoglobin <6 or hematocrit <18% and symptomatic.	0	%	0.1	100%
Test Response	Overall score:	1	0%	0.6	33%
	Abnormal test results appropriately followed up:				
	Hemoglobin <10 and mean corpuscular vol. <82: Within 1 wk, RBC and peripheral smear. If mean corpuscular vol. <82, inq. re blood loss **AND** check iron/total iron-binding capacity **OR** serum ferritin **OR** therapeutic trial of iron. Then, if no obvious source of blood loss, check stool for occult blood. If iron deficiency, workup within 3 mos.	0	%	0.0	%
	Hemoglobin <10 and mean corpuscular vol. 82-98: RBC and peripheral smear. If mean corpuscular vol. 82-98, then check iron/total iron-binding **OR** ferritin **AND** BUN/creat. and rev. results within 2 wks.	0	%	0.2	50%
	Hemoglobin <10 and mean corpuscular vol. >98: RBC and peripheral smear. Check history of chron. alcohol use, B12, folate, and review results within 2 wks.	0	%	0.0	%
	Hemoglobin >18 or hematocrit >54: Check arterial pO_2 and renal ultrasound and review results within 1 mo **OR** req. consult **OR** refer to hematologist.	0	%	0.1	0%
	Hemoglobin <10 and MCV not available: Inquire as to obvious blood loss **AND** check iron/total iron-binding **OR** ferritin **OR** trial of iron. **THEN** check occult blood. If iron deficiency, work-up within 3 mos.	1	0%	0.3	33%

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* **The data in this column are based on 10 physicians and 11 patients.**

PREVENTION

PREVENTION

The table on the opposite page shows the results of the review of your patients' records for four selected preventive services: blood pressure, flu shot, breast exam (women only), and mammogram (women under age 75 only).

CLINICAL ITEM REPORT - Prevention
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

Indicator	Criterion	Your Rates		Peer Group Rates	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Blood Pressure	Once in two-yr period	20	100%	20.2	96%
Mammogram	Once in two-yr period for women <75 yrs old	3	0%	6.6	44%
Breast Exam	Once in two-yr period for women	12	17%	13.1	43%
Flu Shot	Once in two-yr period	20	30%	19.9	27%

MAMMOGRAM

The table on the opposite page displays the results of the review of those patients with abnormal mammograms, with comparisons to your specialty. The three test indicators are shown in the far left column. The next column presents the specific criteria used to evaluate the quality of care. The full text of the criteria with medical references is given in the DEMPAQ Self-Assessment Workbook. The remaining columns show your performance rates on the criteria compared to your specialty group rates.

CLINICAL ITEM REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

CODE: 13 **MAMMOGRAM**

Indicator	Criterion	Your Rates		Peer Group Rates*	
		Number of Patients	Percent Acceptable Performance	Average Number of Patients per Physician	Average Percent Acceptable Performance
Test Indications	Tests ordered appropriately for: **Conditions: Annually:** Positive for family history of breast cancer, personal history of breast cancer, or screening.		%	1.0	67%
Test Urgent Response	NA				
Test Response	Overall score:		%	0.7	50%
	Abnormal test results appropriately followed up:				
	Abnormal mammogram, diagnostic of malignancy: Within 1 wk refer back to radiology or surgery.		%	0.3	100%
	Abnormal mammogram, not diagnostic: Within 6 mos repeat test in time specified by radiologist.		%	0.3	0%

* The data in this column are based on 3 physicians and 3 patients.

FOLLOW-UP

FOLLOW-UP

The table on the opposite page shows the results of the review of your patients' records for five selected types of follow-up: follow-up of a hospitalization or consult request and follow-up of significant findings such as a mass, bleed or unexplained weight loss.

CLINICAL ITEM REPORT - Follow-Up
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

FOLLOW-UP

Indicator	Criterion	Your Rates: Number of Patients	Your Rates: Percent Acceptable Performance	Peer Group Rates: Average Number of Patients per Physician	Peer Group Rates: Average Percent Acceptable Performance
Follow-up of Consult or Hospitalization	Overall Score	17	67%	13.3	78%
	If consult requested, follow-up mention in record.	16	73%	10.7	77%
	If hospitalization planned, follow-up mention in record.	4	50%	4.2	80%
Follow-up of Significant Finding	Overall Score	7	83%	8.8	71%
	If a mass is found, follow-up of finding in record.	4	75%	5.3	81%
	If a bleed is found, follow-up of finding in record.	3	100%	3.0	68%
	If a weight loss is found, follow-up of finding in record.	0	%	0.9	68%

INDICATOR SUMMARY REPORTS

October 27, 1993

INDICATOR SUMMARY REPORTS

The Indicator Summary Report presents one table for each function - drugs, diagnosis, tests, prevention, and followup. These tables summarize your performance rates for ***each*** indicator of a function.

1. How to read the Indicator Summary Report

The function displayed is shown in the title. The dates covered by the review appear immediately below the title. The function name also appears above the table, on the right, a placement which makes it easy to find the table when flipping through the book.

COLUMN	DESCRIPTION
Indicator	Displays the indicators associated with the function listed in the title for this page, e.g. Drugs, Tests, etc.
Your Rates: Number of drugs [tests, diagnoses, etc.]	Shows the number of items included in the rate displayed in the next column. If each of your 25 patients had two drugs, then number of drugs shown in this column would be 50. The number of drugs [tests, diagnoses, etc.] evaluated depends upon the indicator. For example, indicators which apply only to new diagnoses usually have fewer cases than indicators which apply to pre-existing diagnoses (see GLOSSARY for definitions of *new* versus *pre-existing*).
Your Rates: Percent Acceptable Performance	Displays the "percent acceptable performance" rate for an indicator. See below for calculation details.
Peer Group Rates: Average Number of drugs [test, diagnoses, etc.] per physician	Shows the average number of items ***per physician*** who were included in the rate shown in the next column
Peer Group Rates: Average Percent Acceptable Performance	Presents the average percent acceptable performance rate for all physicians in your peer (specialty) group. See below for calculation details.
Quartile Rank	Displays a comparative statistic. All rates within your specialty for a particular indicator are divided into four equal groups: 1st (lowest) quartile: your score fell between the 0th and 24th percentile, inclusive 2nd quartile: your score fell between the 25th and 49th percentile, inclusive 3rd quartile: your score fell between the 50th and 74th percentile, inclusive 4th (highest) quartile: your score fell between the 75th and 99th percentile, inclusive

2. Interpreting the Indicator Summary Report

Indicator rates summarize performance across different clinical items such as penicillin, beta blockers and corticosteroids. The average rates of physicians within your specialty who submitted records for DEMPAQ review are given so you can see how your performance compares to that of your peers. **Caution:** Rates based on small numbers of cases (fewer than 5) may not reflect your customary performance, because the small number gives a statistically unstable result.

The quartile rank presents another measure of comparison with your peers. Performance in the 4th quartile usually may be considered better than performance in the first quartile. **Caution:** If the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range (see diagrams on pages opposite the tables), then the differences in performance between the 1st and 4th quartiles may not be clinically important.

3. Calculating the Indicator Summary Rates

The indicator rates are first calculated for a patient and then averaged across all patients. Figure one depicts how the MET and AA scores for each clinical item are added together and divided by the total number of applicable scores for a patient (MET + AA + FLAG). This gives a patient level performance rate for a particular indicator. The monitoring (drug and diagnosis) indicator rates are calculated by averaging the percentage of monitoring items with met or AA findings across all applicable clinical items.

Diagnosis Indicator Rates
For a Single Patient

	DM	HTN	IHD	CHF	COPD	OA	
Old Dx Monitoring	88	50	33	NA	NA	NA	(88+50+33)/3 = 57%
Evidence for New Dx	NA	NA	NA	MET	FLAG	NA	1/2 = 50%
Treatable Cause	NA	NA	NA	FLAG	FLAG	NA	0/2 = 0%

Figure two shows how the indicator rates for each patient are averaged to create the doctor level indicator rate. The denominator is the number of patients to whom the indicator applies. This method of calculating a summary rate ensures that no single patient will unduly influence the summary rate.

Indicator Summary Rates
For a Physician

	Patient 1	Patient 2	Patient 3	Rate*
Old Dx Monitoring	88	50	33	(88+50+33)/3 = 57%
Evidence for New Dx	67	100	NA	(67+100)/2 = 84%
Treatable Cause	100	100	NA	(100+100)/2 = 100%

*Rate = average across all patients

4. Calculating peer group rates

Peer group rates are constructed by averaging individual physician performance rates, by specialty. Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

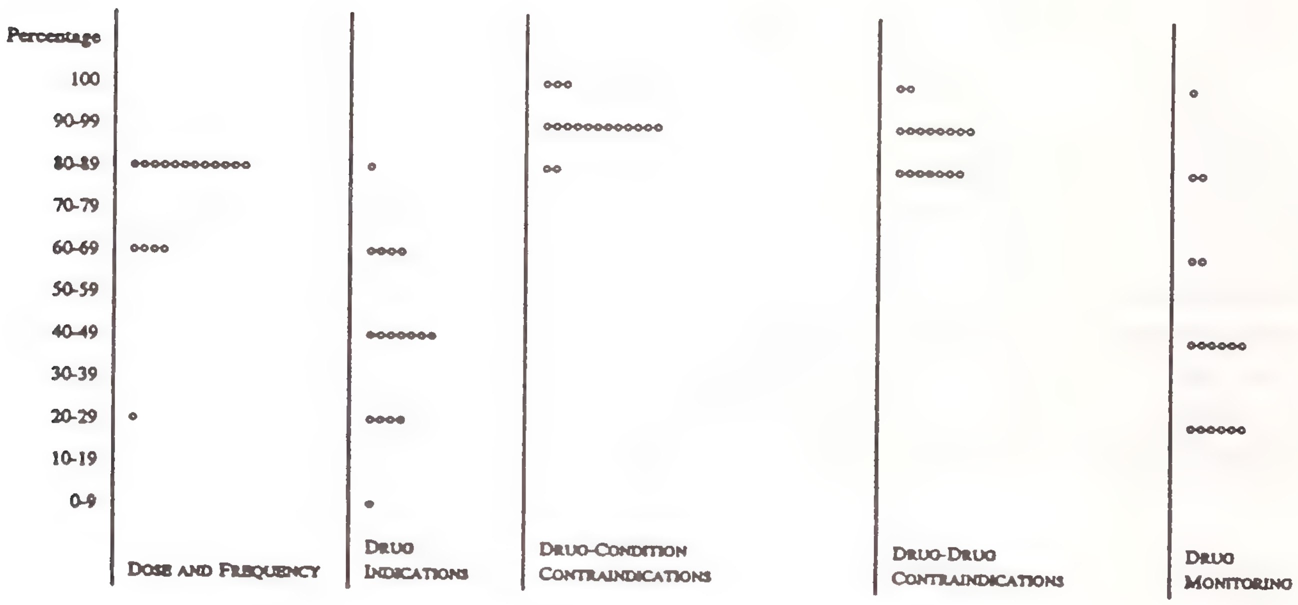
DRUG INDICATOR SUMMARY

The table on the opposite page summarizes performance on the five drug indicators. The function is identified both in the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page, you see that you scored 87% for the Dose and Frequency indicator, then you are represented by one of the dots in the 80-89% row of the Dose and Frequency column. Find your Drug Indications performance rate on the opposite page and then locate the corresponding dot in the Drug Indications column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g., if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.

RATE OF ACCEPTABLE PERFORMANCE
INTERNAL MEDICINE - DRUGS



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Drugs
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

Indicator	Your Rates		Peer Group Rates*		Quartile** Rank
	Number of Drugs	Percent Acceptable Performance	Average Number of Drugs per Physician	Average Percent Acceptable Performance	
Dose and Frequency	53	97%	33.4	84%	4
Drug Indications	16	59%	11.5	47%	3
Condition Contraindications	53	85%	33.3	95%	1
Drug Contraindications	53	97%	33.2	91%	3
Drug Monitoring	37	75%	21.9	54%	3

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* Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

** Quartile ranks show how your scores compare to those of your peers. In general a rank of 4 indicates better performance than a rank of 1 (see caveat and diagram, on opposite page).

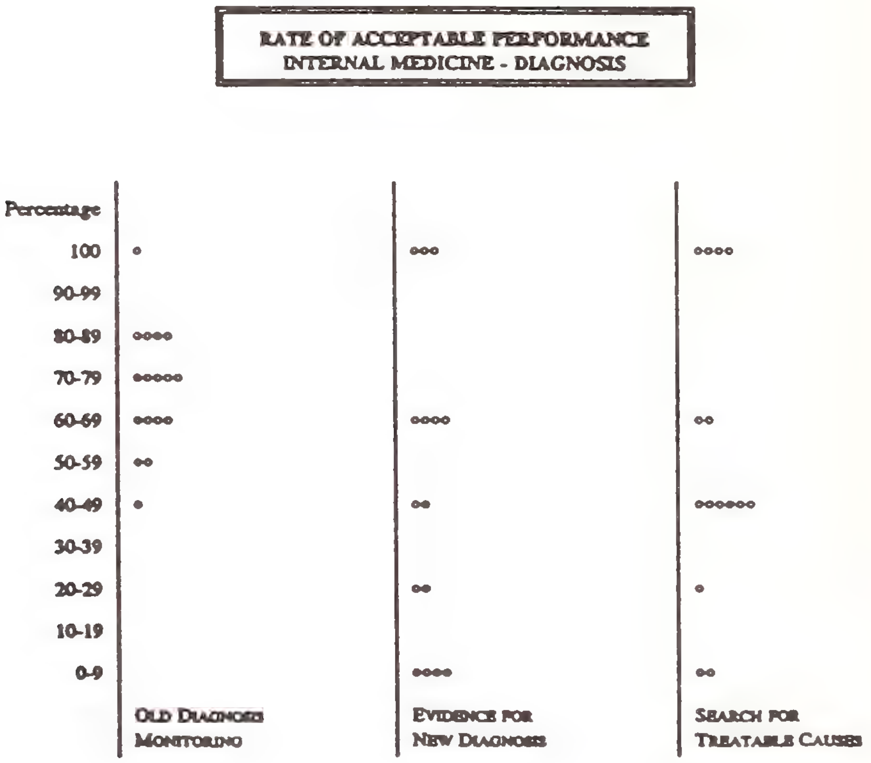
A rank of "1" means your score fell between the 0th and 24th percentile, inclusive.
A rank of "2" means your score fell between the 25th and 49th percentile, inclusive.
A rank of "3" means your score fell between the 50th and 74th percentile, inclusive.
A rank of "4" means your score fell between the 75th and 99th percentile, inclusive.

DIAGNOSIS INDICATOR SUMMARY

The table on the opposite page summarizes performance on the three diagnosis indicators. The function is identified in both the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Old Diagnosis Monitoring indicator, then you are represented by one of the dots in the 80-89% row of the Old Diagnosis Monitoring column. Find your Evidence for New Diagnosis performance rate on the opposite page and then locate the corresponding dot in the Evidence for New Diagnosis column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Diagnoses
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

	Your Rates		Peer Group Rates*		
Indicator	Number of Diagnoses	Percent Acceptable Performance	Average Number of Diagnoses per Physician	Average Percent Acceptable Performance	Quartile** Rank
New Diagnosis Indications	3	67%	2.9	49%	3
New Diagnosis Workup	3	67%	2.9	57%	3
Pre-exisitng Diagnosis Monitoring	30	81%	21.4	73%	3

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* Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

** Quartile ranks show how your scores compare to those of your peers. In general a rank of 4 indicates better performance than a rank of 1 (see caveat and diagram, on opposite page).

A rank of "1" means your score fell between the 0th and 24th percentile, inclusive.
A rank of "2" means your score fell between the 25th and 49th percentile, inclusive.
A rank of "3" means your score fell between the 50th and 74th percentile, inclusive.
A rank of "4" means your score fell between the 75th and 99th percentile, inclusive.

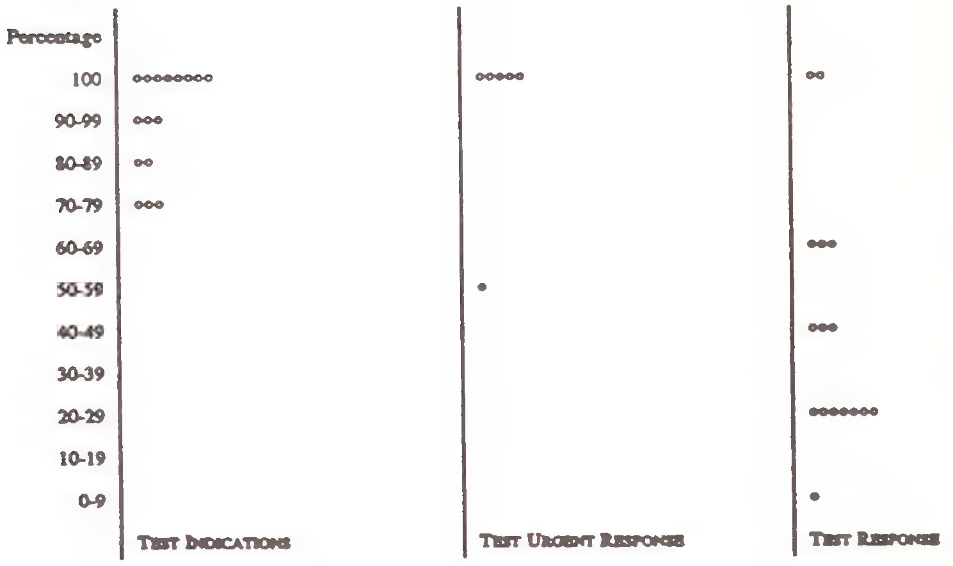
TEST INDICATOR SUMMARY

The table on the opposite page summarizes performance on the three test indicators. The function is identified in both the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Test Indications indicator, then you are represented by one of the dots in the 80-89% row of the Test Indications column. Find your Appropriate Response performance rate on the opposite page and then locate the corresponding dot in the Appropriate Response column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.

RATE OF ACCEPTABLE PERFORMANCE
INTERNAL MEDICINE - TESTS



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Tests
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

Indicator	Your Rates Number of Tests	Your Rates Percent Acceptable Performance	Peer Group Rates* Average Number of Tests per Physician	Peer Group Rates* Average Percent Acceptable Performance	Quartile** Rank
Test Indications	16	100%	15.1	92%	4
Urgent Response	0	%	0.4	92%	
Appropriate Response	8	36%	7.6	47%	2

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* Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

** Quartile ranks show how your scores compare to those of your peers. In general a rank of 4 indicates better performance than a rank of 1 (see caveat and diagram, on opposite page).

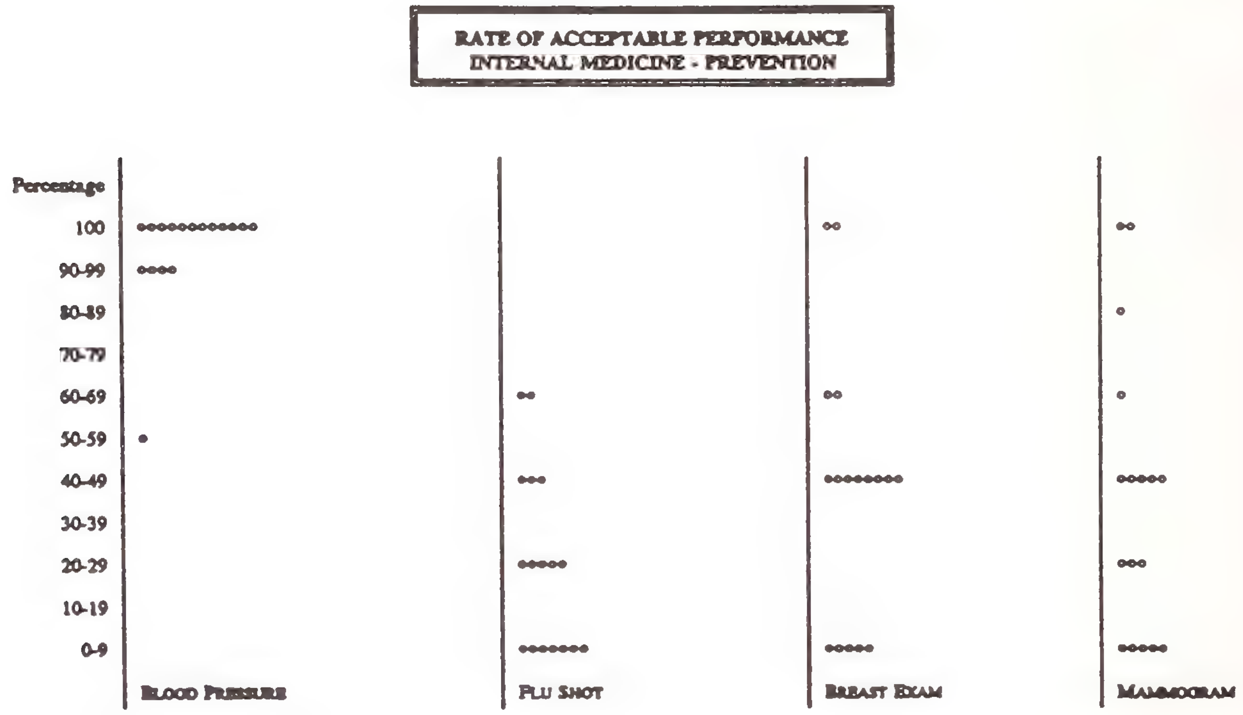
A rank of "1" means your score fell between the 0th and 24th percentile, inclusive.
A rank of "2" means your score fell between the 25th and 49th percentile, inclusive.
A rank of "3" means your score fell between the 50th and 74th percentile, inclusive.
A rank of "4" means your score fell between the 75th and 99th percentile, inclusive.

PREVENTION SUMMARY

The table on the opposite page summarizes performance on the four prevention indicators. The function is identified in both the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Blood Pressure indicator, then you are represented by one of the dots in the 80-89% row of the Blood Pressure column. Find your Influenza Immunization performance rate on the opposite page and then locate the corresponding dot in the Influenza Immunization column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Prevention
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

Indicator	Your Rates: Number of Patients	Your Rates: Percent Acceptable Performance	Peer Group Rates*: Average Number of Patients per Physician	Peer Group Rates*: Average Percent Acceptable Performance	Quartile** Rank
Blood Pressure	20	100%	20.2	96%	4
Flu Vaccine	20	30%	19.9	27%	3
Mammogram	3	0%	6.6	44%	1
Breast Exam	12	17%	13.1	43%	1

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* Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

** Quartile ranks show how your scores compare to those of your peers. In general a rank of 4 indicates better performance than a rank of 1 (see caveat and diagram, on opposite page).

A rank of "1" means your score fell between the 0th and 24th percentile, inclusive.
A rank of "2" means your score fell between the 25th and 49th percentile, inclusive.
A rank of "3" means your score fell between the 50th and 74th percentile, inclusive.
A rank of "4" means your score fell between the 75th and 99th percentile, inclusive.

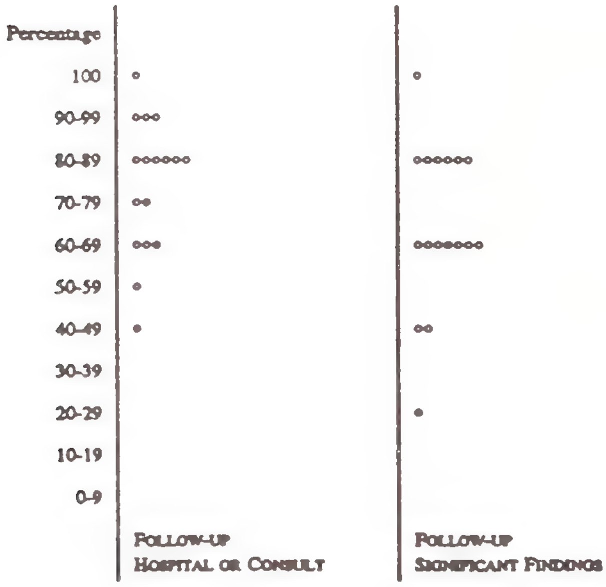
FOLLOW-UP INDICATOR SUMMARY

The table on the opposite page summarizes performance on the two follow-up indicators. The function is identified in both the title and above the top right hand corner of the table. The indicators associated with the function appear in the far left column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each indicator. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Consult or Hospitalization indicator, then you are represented by one of the dots in the 80-89% row of the Consult or Hospitalization column. Find your Significant Finding performance rate on the opposite page and then locate the corresponding dot in the Significant Findings column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.

RATE OF ACCEPTABLE PERFORMANCE
INTERNAL MEDICINE - FOLLOW-UP



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

INDICATOR SUMMARY REPORT - Follow-up
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

Indicator	Your Rates		Peer Group Rates[*]		Quartile[***] Rank
	Number of Visits[**]	Percent Acceptable Performance	Average Number of Visits[**] per Physician	Average Percent Acceptable Performance	
Consult or Hospitalization	17	67%	13.3	78%	2
Significant Findings	7	83%	8.8	71%	4

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[*] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

[**] Only visits reviewed for follow-up are included.

[***] Quartile ranks show how your scores compare to those of your peers. In general a rank of 4 indicates better performance than a rank of 1 (see caveat and diagram, on opposite page).

A rank of "1" means your score fell between the 0th and 24th percentile, inclusive.
A rank of "2" means your score fell between the 25th and 49th percentile, inclusive.
A rank of "3" means your score fell between the 50th and 74th percentile, inclusive.
A rank of "4" means your score fell between the 75th and 99th percentile, inclusive.

FUNCTION SUMMARY REPORTS

October 27, 1993

FUNCTION SUMMARY REPORT

The Function Summary Report presents a single table summarizing your performance on *each* function. Rates for individual indicators and different clinical items are combined within the function rate.

1. How to read the Function Summary Report

The dates covered by the review appear immediately below the title. The title of the table also appears above the table, on the right, a placement which makes it easy to find the table when flipping through the book.

COLUMN	DESCRIPTION
Function	Displays one of six functions reviewed by DEMPAQ.
Your Rates: Number	Shows the number of drugs, diagnoses, tests, patients or visits that were used to construct the rate shown in the next column.
Your Rates: Percent Acceptable Performance	Displays the "percent acceptable performance" rate on a function. See below for calculation details.
Peer Group Rates: Average Number	Shows the average number of drugs, diagnoses, tests, patients or visits ***per physician*** that were included in the rate shown in the next column.
Peer Group Rates: Average Percent Acceptable Performance	Presents the average percent acceptable performance rate for all physicians in your peer (specialty) group. See below for calculation details.
Quartile Rank	Displays a comparative statistic. All rates within your specialty for a particular function are divided into four equal groups: 1st (lowest) quartile: your score fell between the 0th and 24th percentile, inclusive 2nd quartile: your score fell between the 25th and 49th percentile, inclusive 3rd quartile: your score fell between the 50th and 74th percentile, inclusive 4th (highest) quartile: your score fell between the 75th and 99th percentile, inclusive

2. Interpreting the Function Summary

This report allows you to assess your overall performance on each clinical function. The table also gives you a good idea of the broad categories of clinical tasks you perform most frequently for your patients 65 and older. The average rates of physicians within your specialty who submitted records for DEMPAQ review are given so you can see how your performance compares to that of your peers. **Caution:** Rates based on small numbers of cases (fewer than 5) may not reflect your customary performance, because the small number gives a statistically unstable result.

The quartile rank presents another measure of comparison with your peers. Performance in the 4th quartile usually may be considered better than performance in the first quartile. **Caution:** If the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range (see diagrams on pages opposite the tables), then the differences in performance between the 1st and 4th quartiles may not be clinically important.

3. Calculating the Function Summary Rates

Figure one shows how the number of acceptable scores (MET + AA) are summed across all clinical items and indicators within a function and divided by the total number of scores for a patient (MET + AA + FLAG). This gives a patient level function performance rate.

Function Summary Rates
For a Single Patient

	HTN	CHF	COPD	OA	Sum Across Indicators*	Number of Scores
Old Dx Monitoring	0.62	NA	NA	0.75	1.37	2
Evidence for New Dx	NA	Flag	Met	NA	1	2
Treatable Causes	NA	Flag	Flag	NA	0	2
Grand Total					2.37	6
Function Score					2.37/6=40%	

*Flag=0, Met and AA = 1

The patient level function summary rates are then averaged (see figure two). The denominator is the number of patients to whom the function applies. This method of calculating a summary rate ensures that no single patient will unduly influence the summary rate.

Diagnosis Function Summary Rates
For a Physician

	Patient Level Function Rate
Patient 1	68%
Patient 2	50%
Patient 3	54%
Patient 4	37%
Average	52%

4. Calculating peer group rates

Peer group rates are constructed by averaging individual physician performance rates, by specialty. Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

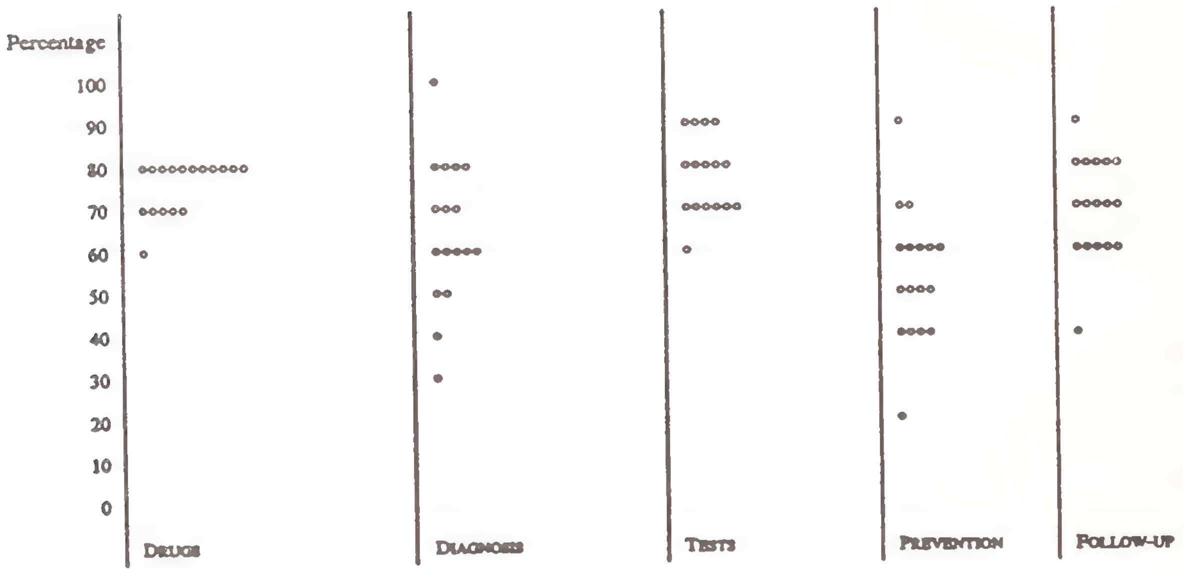
FUNCTION SUMMARY REPORT

The table on the opposite page summarizes performance on six of the DEMPAQ functions, shown in the left-hand column. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each function. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Diagnosis function, then you are represented by one of the dots in the 80-89% row of the Diagnosis column. Find your Drugs performance rate on the opposite page and then locate the corresponding dot in the Drugs column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.

RATE OF ACCEPTABLE PERFORMANCE
INTERNAL MEDICINE



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

FUNCTION SUMMARY REPORT
Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

	Your Rates		Peer Group Rates[*]		
Function	Number of Items[**]	Percent Acceptable Performance	Average Number of Items[**] per Physician	Average Percent Acceptable Performance	Quartile[***] Rank
Diagnosis	33	80%	24.2	70%	3
Tests	16	82%	15.1	80%	2
Drugs	53	89%	33.4	81%	4
Prevention	20	53%	20.2	57%	3
Follow-Up	24	74%	22.1	74%	3

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[*] **Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.**

[**] **Number of diagnoses, drugs, and tests. For preventive services, the N equals the number of patients. For follow-up, the N is the number of visits for which follow-up was indicated.**

[***] **Quartile ranks show how your scores compare to those of your peers. In general a rank of 4 indicates better performance than a rank of 1 (see caveat and diagram on the opposite page.**

A rank of 1 means your score fell between the 0th and 24th percentile, inclusive.
A rank of 2 means your score fell between the 25th and 49th percentile, inclusive.
A rank of 3 means your score fell between the 50th and 74th percentile, inclusive.
A rank of 4 means your score fell between the 75th and 99th percentile, inclusive.

RECORD DOCUMENTATION ASSESSMENT

October 27, 1993

RECORD DOCUMENTATION ASSESSMENT

The Record Documentation Assessment presents a single table summarizing your performance on six categories of record documentation: date, subjective, objective assessment, plan and clinician id.

1. How to read the Record Documentation Assessment Table

The dates covered by the review appear immediately below the title. The title of the table also appears above the table, on the right, a placement which makes it easy to find the table when flipping through the book.

COLUMN	DESCRIPTION
Documentation Category	Displays one of the six of documentation categories evaluated by DEMPAQ and give the overall documentation score.
Your Scores: Number of Visits Reviewed	Shows the number of visits used to construct the rate displayed in the next column. Each patient had at least the first and last two visits evaluated for quality of documentation.
Your Scores: Average Documentation Score	Displays the average level of documentation for each of the categories. Documentation ranges from 0 (none) to 3 (adequate).
Peer Group Scores: Average Number of Visits Reviewed	Shows the average number of visits reviewed for documentation, ***per physician***.
Peer Group Rates: Average Percent Acceptable Performance	Presents the average level of documentation for each of the six categories.
Quartile Rank	Displays a comparative statistic. All rates within your specialty for a particular indicator are divided into four equal groups: 1st (lowest) quartile: your score fell between the 0th and 24th percentile, inclusive 2nd quartile: your score fell between the 25th and 49th percentile, inclusive 3rd quartile: your score fell between the 50th and 74th percentile, inclusive 4th (highest) quartile: your score fell between the 75th and 99th percentile, inclusive

2. Interpreting the Record Documentation Assessment

This report allows you to assess your average level of documentation on six different types of documentation. Complete documentation enhances not only the continuity of medical care for a patient but also provides some legal protection. A low (close to zero) score on a particular type of documentation indicates the need for improved record keeping in that area. The average rates of physicians within your specialty who submitted records for DEMPAQ review are given so you can see how your performance compares to that of your peers.[1] **Caution:** Rates based on small numbers of cases (fewer than 5) may not reflect your customary performance, because the small number gives a statistically unstable result.

The quartile rank presents another measure of comparison with your peers. Performance in the 4th quartile usually may be considered better than performance in the first quartile. **Caution**: If the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range (see diagrams on pages opposite the tables), then the differences in performance between the 1st and 4th quartiles may not be clinically important.

3. Calculating the Record Documentation Rates

The quality of record documentation is evaluated on a four point scale: 0 = no documentation, 1 = illegible documentation, 2 = minimal documentation, and 3 = adequate documentation. An average documentation score is calculated for each patient.

Figure One

Record Documentation Rates

For a Single Patient

	Visit 1	Visit 2	Visit 8	Visit 9	Rate
Date	3	3	3	3	12/4=3.0
Subjective	3	3	2	3	11/4=2.75
Objective	3	3	3	3	12/4=3.0
Assessment	2	3	3	3	11/4=2.75
Plan	3	3	3	3	12/4=3.0
Clinician ID	1	1	3	3	8/4 =2.0

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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

Scores are then averaged across all patients to create a summary score describing a physician's average level of documentation. Scores close to zero indicate poor documentation, while scores close to 3 indicate adequate documentation.

Figure Two

Record Documentation Rates

For a Physician

	Patient 1	Patient 2	Patient 3	Patient 4	Rate
Date	3.0	3.0	3.0	3.0	12/4 = 3.0
Subjective	2.75	1.75	2.5	3.0	10/4 = 2.5
Objective	3.0	1.5	2.25	2.75	9.5/4 = 2.4
Assessment	2.75	1.75	2.75	2.75	10/4 = 2.5
Plan	3.0	2.0	3.0	2.75	10.75/4 = 2.7
Clinician ID	2.0	1.0	1.0	1.0	5/4 = 1.25

4. Calculating peer group rates

Peer group rates are constructed by averaging individual physician performance rates, by specialty. Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

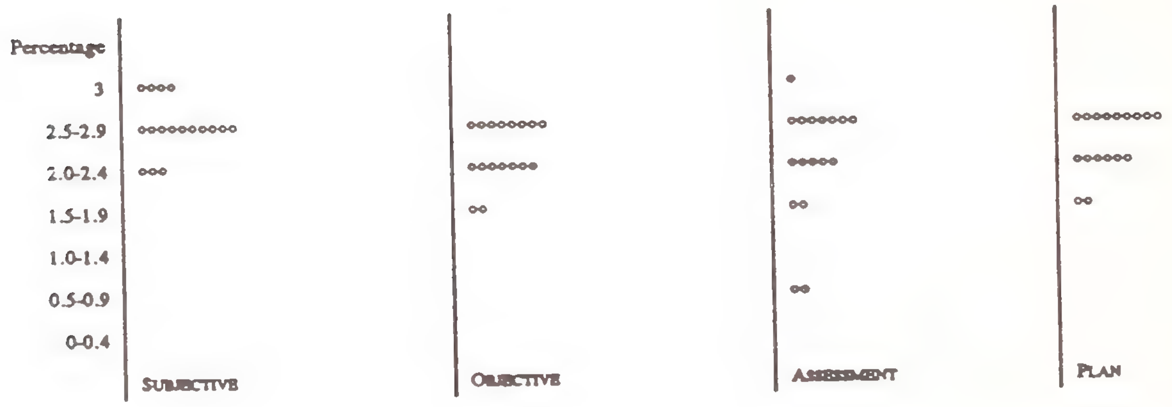
RECORD DOCUMENTATION REPORT

The table on the opposite page summarizes performance on the six record documentation measures and a summary measure. First left-hand column shows the measures. The remaining columns show your performance compared to that of your peer (specialty) group.[1]

The figure on this page shows the distribution of your peer group's scores for each measure. Each dot represents a single physician. For example, if, on the right-hand page you see that you scored 87% for the Subjective measure, then you are represented by one of the dots in the 80-89% row of the Subjective column. Find your Plan performance rate on the opposite page and then locate the corresponding dot in the Plan column on this page. The other dots in this column represent the performance of your peers.

Use this figure to help you interpret the quartile range shown on the opposite page. Usually performance in the 4th quartile may be considered better than performance in the 1st quartile. However, if the distribution of scores is tight, e.g. if most of the scores fall within a 20 percentage point range, then the differences in performance between the 1st and 4th quartiles may not be clinically important.

RATE OF ACCEPTABLE PERFORMANCE
INTERNAL MEDICINE - DOCUMENTATION



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[1] Only doctors who submitted records for the DEMPAQ review are included in the peer group rate. Your peer group was determined from the specialty code in the Medicare carrier provider file. If general practice was listed as your specialty on the provider file, you were assigned to the general practice peer group.

RECORD DOCUMENTATION ASSESSMENT REPORT

Review Period: July 1, 1989 - June 30, 1991

ID Number:
Peer Group: Internal Medicine

	Your Documentation		Peer Group Documentation		
Documentation Category	**Number of Visits Evaluated**	**Average Documentation Score[1]**	**Average Number of Visits Evaluated per Physician**	**Average Documentation Score**	**Quartile Rank[2]**
Date	69	3.0	67.4	3.0	4
Subjective	69	3.0	67.4	2.7	4
Objective	69	2.9	67.4	2.5	4
Assessment	69	3.0	67.4	2.3	4
Plan	69	2.9	67.4	2.4	4
ID	69	1.7	67.2	2.4	1
Overall	69	16.4	67.4	15.3	3

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[1] On a scale of 1 to 3

[2] Quartile ranks show how your scores compare to those of your peers.

A rank of 1 means your score fell between the 0th and 24th percentile, inclusive.
A rank of 2 means your score fell between the 25th and 49th percentile, inclusive.
A rank of 3 means your score fell between the 50th and 74th percentile, inclusive.
A rank of 4 means your score fell between the 75th and 99th percentile, inclusive.

APPENDICES

APPENDIX A

DEMPAQ CLINICAL ITEMS

FUNCTION	CLINICAL ITEM
DRUGS	ACE Inhibitor Adrenergic Neuron Blocker Alpha Blocker Beta Blocker Centrally Acting Antiadrenergic Calcium Channel Blocker Direct-Acting Vasodilator Loop Diuretic Potassium Sparing Diuretic Thiazide Diuretic Ace+Thiazide Alpha Blocker + Thiazide Beta Blocker + Thiazide Centrally Acting + Thiazide Antiadrenergic + Thiazide+ Vasodilator Antiadrenergic + Vasodilator Vasodilator + Thiazide Thiazide + Potassium Sparing Nitrate Insulin Oral Hypoglycemic Corticosteroid NSAID Salicylate Beta-Adrenergic Agonist Inhaled Cholinergic Inhibitor Xanthine-Derivative Oral Beta-Adrenergic Agonist + Xanthine-Derivative Oral Beta-Adrenergic Agonist Oral Cephalosporin Erythromycin Penicillin Tetracycline Aminopenicillins Penicillinase-Resistant Penicillin Antipseudomonal penicillin Sulfonamide Sulfonamide + Trimethoprim

FUNCTION	CLINICAL ITEM
DIAGNOSES	Hypertension Ischemic Heart Disease Osteoarthritis COPD Diabetes Congestive Heart Failure
TESTS	Blood Pressure Hemoglobin/Hematocrit Cholesterol Potassium Blood Glucose Blood Gases ESR Creatinine Urinalysis ECG Joint X-Ray Chest X-Ray Mammogram
PROCEDURES	Flexible sigmoidoscopy Colonoscopy
PREVENTION	Blood Pressure Flu Shot Mammogram (women under age 75 only) Breast Exam (women only)
FOLLOW-UP	Consultation/Hospitalization Mass, Lump, Bleed

APPENDIX B

FUNCTIONS AND INDICATORS

FUNCTIONS	INDICATORS
DIAGNOSIS	Pre-existing diagnoses are appropriately monitored New diagnoses are justified by the evidence in the record Actions are taken to search for treatable causes or co-morbidities of new diagnoses
DRUGS	Drug dose and frequency appear in the record Drug is prescribed for an appropriate condition There are no condition contraindications in the record, or if present, they are justified There are no drug contraindications in the record, or if present, they are justified The patient is appropriately monitored for adverse effects of the medication
FOLLOW-UP	If the patient is hospitalized or referred, a discharge or consult note, or physician mention of the event is in the medical record If the patient has a mass, bleed, or unexplained weight loss, the finding is followed up in the time specified in the medical record, or within three months
PREVENTION	A blood pressure exam is done once in two years A flu shot occurs at least once in the two year period A breast exam is done once for women in two year period A mammogram is done once for women less than 75 years old in the two year review period
PROCEDURES	A procedure is ordered/performed for appropriate indications There is appropriate follow-up of abnormal results A biopsy is done if required The pathology report is in the medical record if a biopsy is taken The area to be visualized the 'scope' is seen
TESTS	The test is ordered/performed for appropriate conditions The patient is hospitalized or referred if required There is appropriate follow-up of abnormal results

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